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The Home Economist

and The American Food Journal

ISABEL BEVIER

MAY, 1928

Essie L. Elliott, B. S.
Gladys Irene Hendrickson
Lyla Iles
E. R. Harding
Anne Simpson
H. E. Van Norman

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THE HOME ECONOMIST

and THE AMERICAN FOOD JOURNAL

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CONTENTS

Cover Portrait—Isabel Bevier

Home Ecomonics for Boys—By Essie L. Elliott, B. S. 115

Chapters from the Lives of Leaders—How I Came to Take Up Home Economics Work —By Isabel Bevier 117

"Do—Do—Then Do Some More"—By Anne Simpson 118

The Contract Plan in Teaching Garment Construction—By Gladys Irene Hendrickson 120

The Story of Textiles—What Is Celanese? 121

The Hotel Offers a New Field of Opportunity to Home Economics Women—By Marie L. Casteen 122

Among Ourselves 123

The History of the American Dry Milk Institute—By H. E. Van Norman 124

Five Dollar a Week Meals at Marshall College—By Lyla Iles 125

The Development of a New Ready-to-Serve Breakfast Food—By E. R. Harding 127

A Correction 131

Pamphlets Received 132

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THE HOME ECONOMIST
and THE AMERICAN FOOD JOURNAL

Home Economics for Boys

The Aim, Content and Administration of the Course Given in Manual Arts High School

By ESSIE L. ELLIOTT, B. S.
Head of Home Economics Department, Manual Arts High School,
Los Angeles, California

"HOME Economics for boys?" with rising inflection of surprise and incredulity. "How very interesting!"

"When does your boy's class meet?" (over the telephone) "I want to bring my principal to visit it."

Again over the telephone. "I wish to bring a group of student dietitians from the Loma Linda Sanitarium to visit the boys' dietetics class. Will Tuesday be a convenient date?"

Conversation between the chairman of the class and the chef of the Biltmore hotel.

"Mr. Gottwalt, will you honor us by your presence at a luncheon in the practice house during boy's week?" "With pleasure. Yes, the hour will suit me exactly," — and the whole school gets a thrill from the visit of a man who is a skilled executive, a true chef de cuisine, and a delightful gentleman to know.

To the manager of one of the finest haberdasheries in Los Angeles — again the chairman speaking "Will you tell us fellows the latest thing in dress for all occasions, and something of the proper choice and care of men's garments?" Date hour and other details arranged.

These and many similar dialogues have occurred frequently during the past five years in which boys have enrolled in dietetics in this high school.

It is no longer a novelty to the students and faculty and the first question given above comes, of course most often, from out-of-town visitors.

Aims

Though the course is called Dietetics there are three distinct phases to eacn term's work. These are health education; parental education; and education for social life.

Health Education

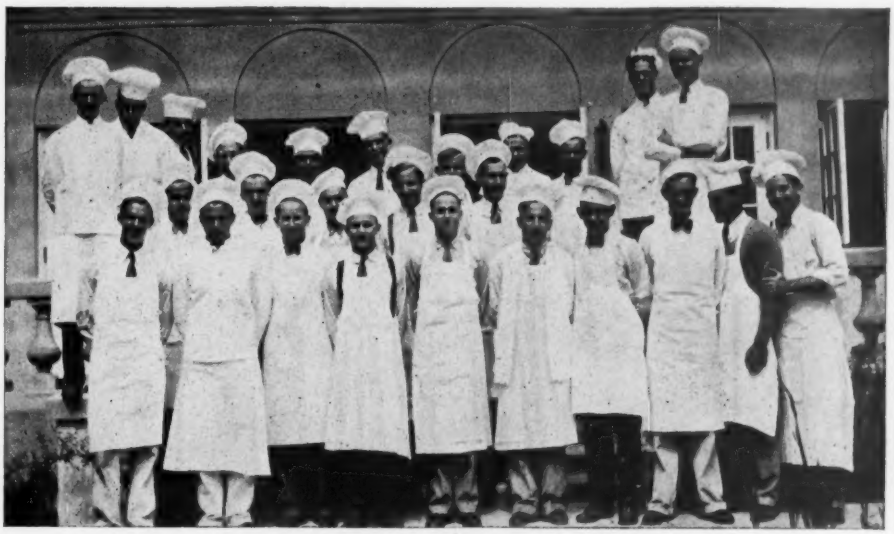
In order to accomplish the first aim —health education, it is necessary to make an elementary study of food values. Some of the boys have had neither chemistry nor a biological science, probably getting the required laboratory science credit from a year in physics. Therefore both the chemical and physiological structure of the body must be reviewed. Among topics covered are naturally the following:

1. Chemical structure of food and its relation to the body.
2. Digestion. Metabolism. Assimilations. Assorption.
3. Food and its relatin to age, activity, climate, sex, occupation.
4. The effect of glandular secretions upon health and body growth.
5. Acidosis; alkalosis and acetone acidosis — their cause and correction and menus illustrating each.
6. A study of diet fads — their faults and merits.
7. Food superstitions.
8. Food preparation. Principles taught through demonstrations, class participation and a series of luncheons during the last month of the semester.

The composition of fifty of the foods most commonly eaten have been mimeographed and these are graphed or charted according to protein, fat, carbohydrate, ash and caloric values. This is an effective way to familiarize students with relative values. These charts are graded on the intelligence shown by the comments and menus made on the back of each chart.

Each boy keeps a term graph of his own weight with observations and remarks on variations from the normal.

All members of each class undertake to solve certain problems or to secure definite data through actual experimentation. During the present semester the following projects are actually in progress. Some are conducting as many as three



Boys' Home Economics Class of the Manual Arts High School

Studying Child Psychology by observation at the Normandie Avenue Nursery School

Laboratory experiments on foods add interest to chemistry classes

and four of these experiments.

Increasing the weight of self or some member of the family.
Reducing the weight of self or some member of the family.
Correcting constipation.
Omitting all candy for one month.
Determining the salt consumption per capita in the family.
Same for sugar.
Breaking the coffee and tea habit.
Reducing the amount of cakes, pies, pastries and sweets to a safe minimum.
Correcting the habit of wrong eating between meals.
Eating more fresh fruits and vegetables.
Increasing the potential alkalinity of the food to counteract acidosis.
Trying to get a sister to eat a wholesome breakfast.
Experimental feeding of rats and guinea pigs.
Careful weighing on Hanson scales of all food consumed for a given time to determine percentage of protein fat and carbohydrate intake.

Food Preparation

Once each week the class adjourns to the food laboratories where principles of cookery are taught either by demonstration or by actual participation of the boys themselves.

Since there is only one forty minute period it is impossible to teach with the complete meal as the unit though the fact that luncheons will be prepared later in the term is always in mind and points on meal planning are emphasized.

There are only fifteen or sixteen of these forty minute food preparation lessons and so there must necessarily be many undesirable gaps or omissions.

The following list is typical of one semester's accomplishment. The figure indicates the number of lessons on that subject.

Cereals (1), Soups (1), Cheese and eggs (2), Meats (1), Vegetables (2), Salads (2), Quick breads (3), Cakes (1), Yeast bread (1), Desserts (2).

In some lessons typed sheets of recipes and questions are distributed and discussed the next day. At other times notes are taken and the whole is reported as a laboratory experiment should be.

When each boy is to take part, the class is divided and an assistant instructor of foods takes half the total number into her laboratory. At all times some few boys at least are in uniform to demonstrate the recipes of the day for the rest.

If the lesson is one which cannot possibly be finished in the one period the boys return at noon to sample the results or, as in a quick bread lesson, a first period class of girls bake muffins, biscuits or cakes, as the case may be, which are served to the boys after the process of mixing and baking have been demonstrated.

In the first salad lesson the principles are developed and illustrated. In the second each boy competes for the best looking salad and these are sold in the cafeteria lines that day.

The crowning events, of course, are the trips to the Biltmore Hotel kitchens and the series of luncheons given at the end of the term.

The chef of the Biltmore, himself the father of a high school boy, is a splendid instructor. He tells the boys anything they wish to know and demonstrates willingly from fancy rolls, to buffet russe. Chickens are drawn in a few seconds; squabs boned; meat and fish cut as desired and of course a wonderful turkey carved, one half by the chef, with proper explanations, and the other by a boy who probably looks forward to the day when he will preside at the head of a Thanksgiving table. How one group ever had the courage to invite this man, skilled of all others in the culinary art, to be its guest at a luncheon, still puzzles and delights the writer and other instructors at Manual Arts. But it was done, and he accepted most graciously, and was an unusually delightful guest at a luncheon that was in no ways a discredit to the hosts and their boy co-workers who prepared it.

Setting the table for luncheon at the Practice House

Parental Education — Second Aim

One of the best talks ever given during the ten terms of Boys' Home Economics was that of a star athlete on his ideas, and others, of proper child training. This high school is fortunate in having the Normandie Avenue Nursery School near by and to this both boys and girls go each

(Cont. on page 138)

Chapters from the Lives of Leaders

How I Came to Take Up Home Economics Work

By ISABEL BEVIER
University of Illinois

I HAVE been asked to tell how I came to take up the work of Home Economics; so here is the story.

In my preparatory and college days in Wooster, Ohio, I had six years each of Latin and German, and was said to do my best work in the languages. In my first teaching after graduation, I was principal of a small high school at Shelby, Ohio, in which I taught Latin and English. After two years I went to a larger high school at Mt. Vernon, Ohio, and taught English, mathematics and botany. Meanwhile, my college room-mate and class-mate had married and moved to Pittsburgh, where her husband was connected with a boys' preparatory school. Because of their loyalty to my interests, they suggested that I come to Pittsburgh and teach in Pennsylvania College for Women. I thought it would be fine to be near them, but alas, the vacancy to be filled was in the natural sciences, as they were then called, and chemistry seemed to be the principal subject to be taught. However, I felt I had practically no preparation for teaching chemistry.

PROFESSOR John C. Sharpe, my room-mate's husband and my good friend, assured me I could get ready to teach it. I made application to be allowed to study chemistry in the summer in Case School of Applied Science, Cleveland, Ohio, and was told that no summer school was to be held, but that Doctor Albert W. Smith would be working in oils and would tutor a few students. That summer I worked diligently at general chemistry and qualitative analysis, and was rewarded by having Doctor Smith say I gave promise of being a good analyst.

I went to Pennsylvania College for Women in September with a feeling that I had at least some basis of knowledge for teaching chemistry. I had, however, that large and indefinite title "Professor of the Natural Sciences" and was expected to teach botany and physiology as well. In the nine years I was there, I "held classes" in geology, and introduction to physical science, in addition to the subjects already named.

Again I went back to Case and Doctor Smith for more work in chemistry and added determinative mineralogy. At the close of my second summer, Doctor Smith, who was a graduate of the University of Michigan, told me I must not come to him again, but go to Harvard the next summer, and then he made this remarkable statement which in the light of later events seems really a prophecy: "I believe the field for women in chemistry is in work with food and I believe the day will come when the large Mid-west universities, Michigan, Wisconsin, and Illinois, will have departments in the chemistry of foods or something of that kind, and you'd better prepare for it." This was in 1888.

FOLLOWING his suggestion, and provided with a letter of Introduction from Doctor Charles Mabury, head of the department of chemistry at Case, I presented myself for registration in Harvard Summer School. It so happened that the letter was addressed to Doctor Davis of the geology department at Harvard, who said that because of the letter he would like to send me to a nice, typical New England family to live for the summer. Later it will be evident that this was an important event for me; so I mention it here.

In Harvard I took organic chemistry and qualitative analysis and had the experience of being the only woman with some ten men. I greatly enjoyed my residence in Boston, as well as my work in the chemical laboratory. Professor Putnam and wife, of the Peabody Museum of Harvard, came to the boarding house, and they became my very good friends. Plans were then being made for the Chicago World's Fair, and Professor Putnam asked me if I did not wish to work in the World's Fair. The idea had never occurred to me, but he suggested that since there would be plenty of work in chemistry, I had better see if I could not get a position there. He also sent me with a letter of introduction to Mrs. Ellen H. Richards; so my Harvard summer really opened two new doors to me.

IT was two years before the World's Fair occurred, but Professor Putnam did not forget his interest in my work. I went to the Fair with some Pittsburg friends, and when we reached our hotel the first night, I found a telegram forwarded from my home, asking me to appear at the Administration Building. I could not imagine why I should, but on obeying the summons the next morning, I was told by Mrs. Virginia C. Meredith, of the Woman's Board of the Fair, that I had been recommended by Professor Putnam as a woman chemist. I well remember the consternation and surprise with which I went to Professor Putnam, who had charge of the Department of Archeology at the Fair, and told him I appreciated his interest, but I felt sure I could not do the work, and he said "Now, just what is it that you cannot do?" "Well." I said, "I do not know yet, because Mrs. Meredith told me she would call me later; that they regarded me very favorably because Professor Putnam recommended me; and, while they had turned down many very good recommendations, they had accepted me." He said, "Very well when you find out what it is they want you to do, if you cannot do it, I want you to go home; but if you can, I want you to do it well. Meantime, see the Fair." So I went with my friends for the ten days as planned to see the Fair, and on the tenth day was told to appear with the Mineral Waters Committee.

I found the personnel of the committee to be Professor A. A. Brenneman, a chemist of New York City; a doctor; head of an insane asylum in some western state; a German; an Englishman; a man from Georgia; and Doctor Jacques of Mexico. Professor Brenneman was chairman and I was made secretary. Professor Brenneman informed me that he had to return to New York to arrange his affairs, and that during his absence I was to sit in our office in the Tunnel Room of the Administration Building. My business was to be to select from every exhibit on the grounds two samples of each kind of mineral water. A man was to be provided who was to bring these to me.

SO I, whose acquaintance with mineral waters was limited t an occasional soda, began to enlarge my acquaintance with them. Each day Doctor Jacques, accompanied by an interpreter appeared, bowing and saying "Good morning" as soon as they entered the door, and then continued to bow until their exit at the other end of the room, saying at occasional intervals: "Tomorrow — tomorrow — tomorrow." The experience as secretary proved a most interesting study in human nature as well as in mineral waters. Professor Brenneman was usually invited to lunch each day with somebody who represented a mineral water company. While my office hours were carefully kept, there were, of course, nights and Sundays in which to see much of the wonderful Fair.

Meanwhile the samples had been collected, part of them analyzed in Doctor Long's laboratory in Northwestern University, and part of them went to Doctor Brenneman's laboratory in New York. The physical examinations were made in our office. I had the good fortune to meet, among other distinguished chemists, Professor W. O. Atwater of Middletown Conn., and Doctor Harvey W. Wiley then head of chemistry in the United States Department of Agriculture. When Pennsylvania College opened in September, I felt obliged to go, but Doctor Brenne-

(Continued on page 136)

"Do—Do—Then Do Some More"*

Ways of Teaching Health in One-Room Rural Schools

By ANNE SIMPSON
Supervisor of Health Education in the Public Schools,
Marion County, Oregon

MARION COUNTY, Oregon, is a place where the great open spaces of the movies are still found in abundance. Its hundred-odd rural schools (in addition to the fine modern structures of many towns) are scattered over an area of roughly a thousand square miles, and some of them lie on the extreme fringes of the settled area where the virgin timber still stands and where winter snows shut them off from contact with town during much of the year. Only three children are left in one such school, sixteen miles from a village which itself is almost deserted, but even here a mellow spirit of healthful living is evident. When the rural teachers were invited recently to report what they were doing in the way of health education, this teacher wrote:

I have had no difficulty in carrying out the health program. My little band of "chickens" drink milk, eat hot mush every morning, eat vegetables and fruit, take their baths, and clean their teeth at least every morning.

They seem to get plenty of exercise, have home chores morning and night, walk three-fourths of a mile to and from school, play games and swing up and down at the ends of the branches.

Life on this mountain ridge is warranted to cure anemia, rickets, and ill-temper in children.

It is a long jump from such idyllic surroundings to some of the poorer villages where foreign habits and a low standard of living complicate the health problem. Yet it was in such a neighborhood that the teacher could report proudly that "The boy who ate six pancakes for breakfast and a length of bologna for his school lunch has persuaded his parents to substitute oatmeal and a bottle of milk."

Run through all the reports, as I have done, and it becomes clear that a health program has been made a reality in our schools. During the last two years a child health demonstration, financed by the Commonwealth Fund, has been in operation with a county-wide program of child health promotion including medical, dental and nursing services in addition to the work in the schools. The demonstration has assisted the county superintendent of schools, Mrs. Mary L. Fulkerson, by providing through its director of health education monthly outlines which give suggestions for teaching health habits in connection with classroom work. The director, who has official status in the county school system as supervisor, has also made individual visits to each rural school at which demonstration lessons are taught. As the stories indicate, most of the teachers are young and inexperienced. This has been the first opportunity most of them have had to share in such a piece of work. Group teachers' meetings are held, at which all the teachers from a given district —averaging forty in a group—meet the health supervisor and the public health nurse. At these meetings the principal topic of discussion has been the Honor Roll, a device for recognizing and stimulating the practice of health habits, the correction of physical defects, good conduct in school and a high scholastic rating.

Certain elements in the attitude of the teachers have proved to be of great importance in achieving results in health education:

Their enthusiasm and willingness to share in every phase of the program.

Their splendid attendance at group meetings, and their assumption of leadership in dealing with their own problems.

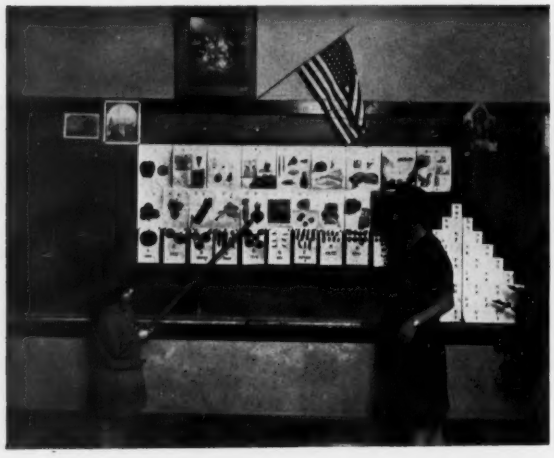
Their mutual interest and cooperation; they have helped each other by offering suggestions and exchanging devices that work.

Their acceptance of a preventive program; most of them emphasized health habits instead of defects and disease.

Their success in interesting mothers and fathers in the program.

Their determination to improve school facilities and sanitation: many secured new playsheds, new windows, new woodsheds, cleaner toilets, and pure water supply.

Their success in using local material for teaching health. Rural teachers are almost entirely without such conventional advantages as books, stories, pictures and study outlines. One isolated mountain teach-



Pictures emphasizing health habits were used in the teaching of phonics

Each child is holding aloft a bottle of milk, showing this to be a 100% milk drinking class

*Reprinted from Child Health Bulletin by Courtesy of American Child Health Association.

er, utterly without helpful material from outside, used left-over wallpaper, the covers of mail order catalogues, cutouts from tomato can wrappers, and commercial publications as sources of graphic illustrations of good foods.

An important clue to health progress in the classrooms of Marion County is found in the last sentence of the report of another teacher, who wrote:

In beginning the health project one parent was said to have remarked, "I ain't got time to bother with their hands and nails." Not much progress was made in cleanliness until a chart was used which included cleanliness and tidiness with the "clean teeth daily" slogan as a requirement for a star. Then results began to show. One little tot cried because her mother hurried her on to school with dirty hands and nails. So we instituted a clean-up period before the last bell. How they did scrub and clean and comb hair! Except one, I am sorry to say, who, since the date of the Honor Roll entrance, has passas a little "don't care" boy. His mother also has dropped back into negligence. At present I am trying to think up a plan to make him want to be clean. I do not consider force of as much value as establishing a desire to be clean.

Health teaching here has aimed to lead children to want to be healthy. As another teacher wisely remarks:

Health habits cannot be taught spasmodically: one must mention them every day, and there are hundreds of opportunities for speaking of a habit without making a sermon of it. Whatever you do, do not preach —children cannot stand sermons. Just "do"—"do"—then "do" some more and put in the "why" once in a while.

There are many ways of reinforcing the "do—do—do" so that the children's interest is caught and held fast. Weighing in the classroom, and comparing the weights with a standard of progress, is one of them. Here is what one teacher has to say of this:

The pupils were weighed and measured three times during the year. Each time we checked up carefully on all underweights and after the second list of results came in we succeeded in making the room 100 per cent in milk drinking, when at last two foreign children, in whose home coffee was a main article of diet, were convinced that they were being left far behind in the weight-gaining contest, and they too began to bring a milk bottle to school.

An ingenious way of solving the difficulty of weighing without platform scales is this:

The district could not afford to buy scales for us and none of the patrons living near the school happened to have the little platform scales. So we borrowed some spring scales and hung them up with a rope to the transom over the door. In the hook of the scales we hung a rope swing and placed a swing-board in that. The first of each month all the children are weighed and their weights are recorded on the weight chart. They have quite a lark on weighing day. Each makes an estimate of his own weight and of the weight of others, too. The scales that we use will register no more than 124 pounds. There is only one pupil in school who weighs more than that, so she gets weighed elsewhere. This is the second year that we have used the spring scales and they have been very satisfactory.

The good teacher will find plenty of opportunities to tie together health teaching with other tasks in the day's routine. Of course there is no virtue in thus "correlating" subjects just for the sake of the correlation, but when the combination is a natural one, interest is added to both subjects. Take for instance this piece of natural joinery:

In teaching health habits, we correlated the work with our regular school work. At the beginning of the year in teaching phonics, I mounted on heavy paper three or four pictures of different objects that began with the same letter. These pictures emphasized some health habit. For instance, in teaching the sound "t," I mounted a picture of a toothbrush, tomato and towel. At the top of the sheet was written the letter "t" in both script and print. In teaching "s" I used pictures of soup, salad and soap, for "m" a picture of milk, for "f" a picture of fruits, for "b" a picture of beets, for "l" a picture of lettuce, for "e" a picture of an egg, for "a" a picture of an apple, and so forth. These pictures were mounted on sheets about nine inches square and placed at the top of the blackboard. If a child forgot what a letter said, he looked for it at the top of the picture and could tell immediately what the letter said. This served as an excellent device in teaching phonics and the children enjoyed the pictures which emphasized the health habits which they were trying to form.

Sometimes an admirable extended lesson plan has been developed out of the health teaching material, such as the first part of the following summary of the health program of the second grade in a town of a thousand-odd people, forty miles from the county seat and very simple in its ways of living. The rest of the program, fairly representative of the more alert county schools, is quoted in full:

My first project was cleaning up our town. In a series of lessons we learned the following things about our town:

I. Its history: a. Why people settled here; b. What the town meant to the people. c. How it was built; d. Some of our first good citizens.

II. Mill City as it is today: a. School; b. Mill; c. Homes; d. Business; e. Law; f. Advantages; g. Disadvantages.

III. Why it is a good place in which to live.

IV. How it could be improved (the

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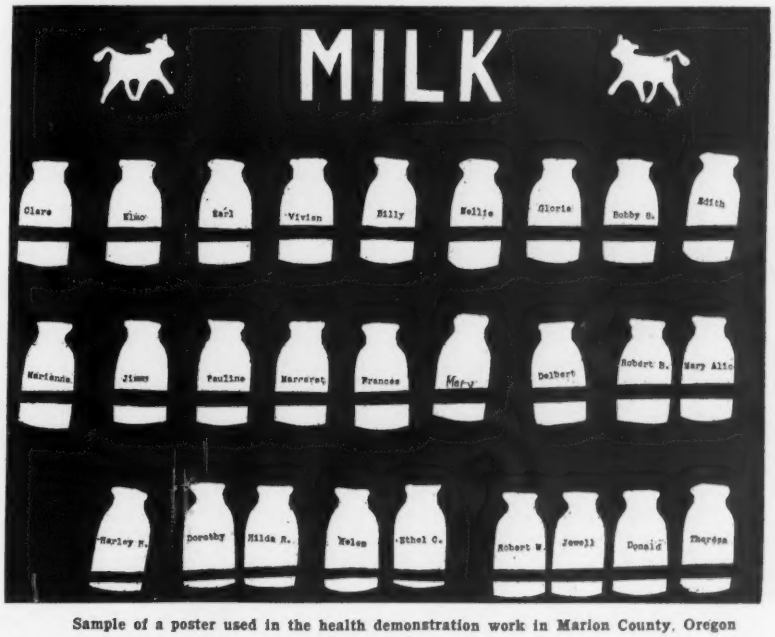


Sample of a poster used in the health demonstration work in Marion County, Oregon

The Contract Plan in Teaching Garment Construction

By GLADYS IRENE HENDRICKSON
Dean of the Division of Home Economics, Connecticut Agricultural College

EDITOR'S NOTE:—The experiences described in the following article are the joint experiences of the author and Elizabeth Hamilton Putnam, her assistant in these courses, 1924-27.

IN the following brief discussion, it is the intention to present a plan devised and adopted by the author and her assistant in an effort to more adequately motivate the subject matter of two courses in Clothing offered to first and second year students in the division of Home Economics. Since the two courses are included in the group of courses required of all candidates for a degree of bachelor of science from the division, each group necessarily contains a number of students who are taking the courses because of the requirement rather than for the satisfaction of a genuine interest. In addition to this, the necessity of including sufficiently comprehensive training to provide adequate preparation for teaching, since the majority of our graduates enter the teaching profession, has necessitated the inclusion of much material which had little direct appeal to students eighteen to twenty years of age. Few girls, for they are girls rather than women, are vitally interested in making infants' garments for the sake of learning how to make them, and the selection of such things as bedding is decidedly boresome. Regardless of how many are wearing fraternity pins which may apparently be more or less of an indication of mating, the provision of things for a home seems so far in the future that the present can permit of little time for their contemplation even though that future may be only two or so years in time. If thoughts of a home fail to arouse the essential interest, it is questionable if the possibilities of a teaching position and its demands upon the mental resources of the individual are any more of an incentive to learn to judge values in such things as children's wear and tea towels. Standards of construction both in things made by the students and those selected by them constituted another difficulty in that the genuine interest was nearly always in effect to be gained from the article rather than the manner of its construction, or standard of the material contained. Is any thing more rare than the student, who of her own feeling for things well-made, suggests that an indifferently made thing be corrected? One feels real "balm for weary souls" when such a student presents herself and yet, perhaps, it is that occasional one which causes us to keep faith and continue to believe in our chosen work.

IT was in an attempt to correct several such undesirable features in the courses in clothing construction that it was decided to combine some of the features of the contract plan of teaching with former set-up of the courses. While Miss Dalton would scarcely recognize any of the procedure as even akin to her well-developed plans, they are presented as largely responsible for the method followed.

The instructors concerned had been of the conviction for some time that two of our most worth while objectives were not being realized as fully as we should like from the standpoint of either the students or the instructors. These were the development of responsibility for measurable accomplishments within the individual student and an arrangement of the subject matter of the courses which would build up the necessary body of knowledge and require only such garments or articles made as students actually needed.

These seem widely divergent objectives but were the fundamental reasons for the adoption of the contract plan of work for the two courses named.

To the best of the ability of the instructors concerned, an analysis was made of the knowledges and skills which a teacher of clothing should have to be prepared to meet her classes. These were grouped according to type of subject matter, prerequisite knowledges or skills, possible usefulness to a teacher and to her student and comparative importance in the selection construction, use and care of clothing and household articles.

ALLOCATING each of these things, such as design and chemistry knowledges to the respective courses which would ordinarily care for them, those things were selected from the remaining material which seemed most essential and most definitely a part of the courses which were being considered. The next procedure was to apportion the material in hand, such as fundamental construction processes, or clothing inventories, to such time as could be reasonably arranged within two semester courses having seven fifty-minute periods per week. This apportionment was largely determined by crude deduction from the performances of classes in previous years.

Since our groups are complex in many ways, particularly from the standpoint of preparation previous to college entrance, and the fact that the organization of the departments makes division and re-division of groups on this basis impossible, plans for caring for students of marked and low ability in the same sections had to be included in the plans for courses. Wide variation in social and economic status of members of the groups presented another complication, in consideration of the second objective.

ATTITUDES were among the first of the objective attached. These were approached first by meeting the groups concerned previous to their entrance to the courses and presenting to them their functions and emphasizing their place in the training of teachers. This led naturally to the idea of certain knowledges and skills being necessary to every teacher and gave a reason for the inclusion of much material in the courses, such as infants' wear which is apt to seem forced to college students; that is, a requirement for the sake of a requirement.

After having established in the minds of the students, the reasons for the inclusion of various types of subject matter in the courses, the students were asked to inventory their wardrobes, needs for their rooms at college, needs for small children with their families, and to make a plan for their clothing and room needs for the semester in which the courses were to be conducted. Typical garments and household articles which would permit of such material in their selection and construction as the course requirements represented were suggested. Using these as a guide each student was then asked to make a plan for his own work for the following semester.

FROM the lists which were returned by the students the instructors planned their work for the courses as far as adapting the subject matter of the course to the individual needs of the students was concerned.

At the first meeting of the groups a list of required knowledges and skills was presented to the students and the first named objective was giv-

(Continued on page 130)

The Story of Textiles

Supplementary Reading for Classes in Clothing and Textiles

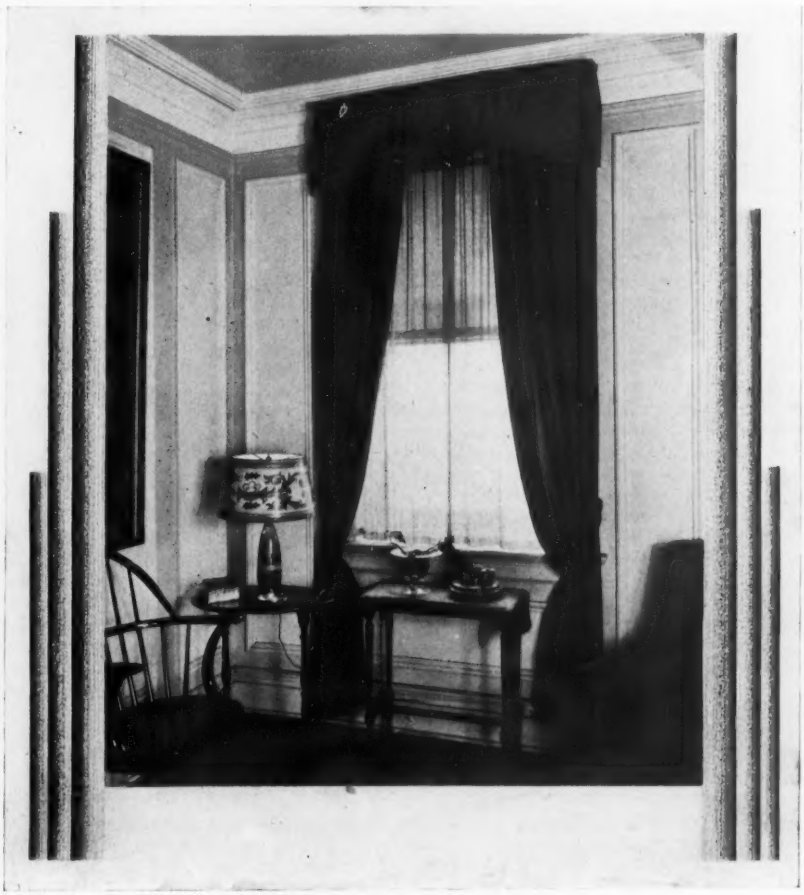
What Is Celanese?

WITH Celanese brand fabrics reaching their first intensive country-wide distribution this Spring, backed by national advertising that is producing numerous consumer inquiries every day from widely scattered sections of the country, the home economics teacher is undoubtedly meeting frequently with the question, "What is Celanese?"

In answering that question the first important point to clarify in the mind of the inquirer is the fact that the term Celanese is not descriptive of any particular weave of fabric. Celanese is the trade name of one of the newest, and certainly the most romantic, of the man-made textile fibers; the yarn in turn lends its name to the wide variety of fabrics into which it is woven or knitted.

The expression "Celanese fabrics" usually refers to materials made entirely of Celanese, but is sometimes used to describe mixtures in which Celanese is combined with silk, wool, or cotton. The Celanese Corporation of America, which produces the fiber in its works at Amcelle, near Cumberland, Maryland, likewise markets "Celanese brand fabrics" under a registered trade mark. Many other well-known textile houses also sell materials made in whole or in part from Celanese yarn.

The yarn itself differs radically, not only from the old staple fibers—silk, cotton, wool and linen—but also from the relatively new group of "artificial silks" that are known as rayon. The rayons have the same chemical nature as cotton; both are cellulose. Celanese, although manufactured by the so-called "cellulose acetate" process, is not cellulose, but an entirely new chemical product resulting from the action of acetic acid on cotton linters during an intricate manufacturing process that is covered by many patents. This difference from other fibers in chemical nature is worth noting because it accounts for several of the unique characteristics of Celanese products.



A tasteful interior. Curtains of champagne Celanese Voile, drapes of green Celanese Moire

Chief of these characteristics are the elasticity that helps to account for its wearing qualities and the resistance offered by Celanese to the weakening effects of various kinds of moisture. Unlike many rayons that are capable of absorbing sixty per cent or more of water, and that therefore are very weak when wet and easily stretched and torn, Celanese fabrics have a fixed moisture content of not more than four per cent. Accordingly they can be washed without difficulty; they show no perceptible loss of strength when wet and do not shrink nor stretch.

For the same reason they are unaffected by the humidity of the air or by perspiration. This last point is important in warm climates. In the tropics, where silks quickly rot away, the durability of Celanese is unaffected.

This unusually high resistance of the fiber to influences that usually affect other textiles explains two other characteristics of Celanese. One is the facility with which spots and stains are removed in washing, due to the fact that they generally remain on the surface of the fabric, seldom penetrating into the yarn In many cases, they may be removed merely by rubbing with a damp soap cloth.

The other is the imperviousness of Celanese to the standard dye formulas used on other fibers, as a result of which, mixture fabrics containing Celanese and some other fibers can be dyed in two-tone effects by immersion in a single dye bath. This adaptability of Celanese to cross-dyeing ac-

(Continued on page 126)

The Hotel Offers a New Field of Opportunity to Home Economics Women

By MARIE L. CASTEEN

THE modern hotel makes a strong appeal to women who have specialized in Foods and Cookery or in Institutional Management. This is due to the fact that the hotel represents, on a large scale, the last word in that convenience, service, and comfort which is associated with the home. The hotel must satisfy the individual demands of all guests, whether a few hundred or several thousand, and this requires the cooperation of trained specialists, some of whom must be women. Work in hotels is so highly specialized that it offers many different fields of opportunity.

Women are already recognized as better fitted than men for the position of Tea Room Manager, or of Cafeteria Manager, in hotels that have restaurants of this type. In the larger hotels there are wonderful possibilities in the housekeeping department for a woman interested and trained in Household Administration. The care and arrangement of flowers for the lobbies, dining-rooms, special parties, and the decorating and arranging of rooms for the larger functions affords an opportunity to the woman of artistic ability. Then there is the banquet department which provides food and service for special luncheon and dinner parties, teas, dances, and banquets. The success of this department depends much on careful supervision of all detail. The service in the main dining rooms and cafes is still another example of the variety of opportunity in hotel work. When one enters a carefully appointed hotel dining room with its beautiful silver and china, where the service of a meal is dispatched with the greatest speed and efficiency, it would seem on first thought that nothing could be done to improve upon that scheme of service. Perhaps a woman cannot much improve conventional good service, but she may well be able to give an indefinable woman's touch to the quality of this service that a guest feels immediately, as he would were he a guest in her home. The hotel is after all, a home and if a woman can create a home atmosphere in the dining-room of a two-thousand room hotel it will insure popularity and good-will to the management.

Perhaps the greatest opportunity in the hotels is for women interested in cookery, provided they are qualified to give practical and constructive assistance in the field of food preparation, in determining the variety and quality of food served, and in ensuring that the quality of the food loses nothing in the service. Competition is very great among hotels and every manager realizes that his hotel must give something better in service and in quality of food than its competitor in the next block. The present-day hotel must serve to each guest the kind of food that guest prefers. No longer can the chef in the kitchen set the standard for the guest.

Marie L. Casteen

DURING the past ten years there has been a great change in the eating habits of the American public. The business man has found that it does not pay to overl ad his stomach with meats, rich sauces and heavy desserts. He has found that he can do more efficient work in the afternoon if his luncheon has consisted of an entree or well-cooked vegetables or a salad. The entrance of women in such large numbers into the business world has had a decided influence on the trend of public eating habits. The majority of women give a great deal of attention to the selection of their food. There are several reasons: cost; the desire to keep thin; information on proper foods and their selection, gained through magazines and newspapers. Women have been readily susceptible to the information given by scientific and medical authorities upon the type of food they should eat in order to keep happy, healthy and wise. It is impossible to pick up a newspaper or woman's magazine without finding an article by some well-known authority on "proper selection of food" or "body requirement," "the necessity for green vegetables in our diet," "vitamines and vitality," etc. I believe that without a doubt this systematic, wholesale educational policy of our newspapers and magazines has done more to change the eating habits of the American people than any other factor. People eating in public restaurants derive much satisfaction if they feel the menus have been planned from the point of view of a scientific and well-balanced meal. They also like to feel that the food is being prepared by the latest accepted scientific method. But after all the meals must satisfy, and the food must be attractive, well cooked and seasoned.

FROM the very beginning of the modern hotel industry the preparation of food has been entirely controlled by the supervising cook or chef, always a man. In order to understand why the hotel chef has not adopted many of the more scientific methods of food preparation and has not in fact kept pace with the changing demand of the public, we must know something of his training and life. The greatest chefs are foreign; most of them are French. If you look into the past history of the majority you will find that they started their profession as cook apprentice under some well known chef. Most of them started out as boys and have worked their way up from the humblest position in kitchen to the highest in their profession. All their knewledge of food and all their training has come to them from the hotel kitchen and from a chef who has learned his profession in the same way. While this is a very thorough way to learn their work it naturally does not give them a broad or even a progressive point of view. Their profession reached its highest point in skill and art in the days when men lived to eat and the twelve course dinner was the mode. The men are wonderful artists in all kinds of elaborate cookery. It is ever a source of wonder to me to watch these men at work. They never seem to be hurried, yet there is never a wasted motion and the skill they have reached through years of practice is amazing. When we stop to consider the demands made on hotels, is it small wonder that the average hotel man has felt that the Home Economics trained woman had no place in his organization. It is not unusual for a large city hotel to be doing a capacity business in all public dining-rooms while at the same time the banquet department is handling a half dozen parties each numbering anywhere from fifty to two thousand. The highly trained chef can and does meet these demands efficiently. If it were not for the

(Continued on page 129)

AMONG OURSELVES

OBVIOUSLY and necessarily, content of home economics courses must change somewhat to be in keeping with the changes brought about by modern living conditions. That this is being done in most instances all of us know. The thing that makes our modern methods of education so fascinating and so different from the old school methods is its study of the individual. The home economics teacher who is able to make close personal contact with her students; study their home conditions and fit her course about the actual living problems of her particular community may truly be said to have achieved real results.

We believe that a great many of you will be as interested as we were in the following editorial which appeared in the first issue of the New York State Home Economics Association News Letter. It expresses in a clear and concise way the problems that confront the home economics teacher in her classroom work, and the effort that should be made to make these courses in our schools and colleges actually fit the needs of the young people who are to be the home makers of the community. Because we believe that your interest in this subject is as keen as ours, we have asked permission to reprint this editorial and pass it on to you.

Changing Demands Upon Home Economics

A GOOD measure of the value of Home Economics courses in the schools is the extent to which they are useful in solving home problems. The content of a course may still be suited to homes as they once were or they may be changing courses to meet the changing home. Social and economic changes are fast making a new demand on Home Economics teaching. There are problems to be met by persons going out from high schools and colleges which were not found in earlier days. Examples are found in purchasing furniture on the installment plan, an auto preceding the washing machine, the woman in industry or professional life, hand to mouth existence with supplies purchased by the pound instead of by the bushel, absence of guest room, or used by the roomer, recreation outside the home.

Home Economics teachers are in touch with the problems and the unrest of youth and are in a position to build home ideals as a staying power.

Many boys and girls whether or not they have any contact with Home Economics teaching in their school life, and too many leave school without it, will start housekeeping on a small income with an immediate need for planning expenditures to make life possible for the family and to get their money's worth in the new adventure of income spending.

These young people have a right to ask whether their education has pointed the way to finding houses, selecting food and clothing of the right sort and compatible with income.

Their lives demand shortcuts in housekeeping because the modern housewife wants to subordinate the routine of housework to find satisfying opportunity outside of her kitchen either for recreation, a vocation, or for educational development.

The stereotyped teaching which anticipated that all the time would be devoted to getting three meals a day, cleaning up and keeping the family mended has lost its value for an increasing number of women.

There is no longer leisure for sewing at home and clothing courses have doubtless to be reconciled to the needs of the woman who must make a selection on a small income to keep up with the procession socially and to give satisfaction which may be looked for in the family clothing. To be well dressed for business and social reasons, to be well fed for health, to be housed for comfort and respectability and artistic satisfaction, requires home economics courses taught in reference to present day situations.

A larger problem is that of the young mother who is no longer satisfied to listen to her relatives in determining how to care and feed the babies and to guide her children's behavior, for which she is asking aid.

The demand for education of this type is becoming so great that it is fair to suppose that courses prerequisite to Home Economics may be making their application to fit the needs of young people after they leave school. We may reasonably expect that a knowledge of the selection of food for health and growth might be secured in a course in physiology; artistic environments essential to happiness and prosperity in courses in drawing; an understanding of the thousand activities in connection with equipment in courses in physics; the prevention of contagious diseases incident to the care of the family or community in the courses in bacteriology and biology; studies to reduce fatigue in the household where help is insufficient in courses in industrial engineering; the success of family relations and habit forming in childhood in courses in psychology.

Is it not true that the acceptance of home economics education depends upon the far seeing interpretation of education for homemaking based upon a knowledge of homes and their needs? The problem needs to be solved by someone as to how teachers of homemaking may know more about homes which young people will establish.

The best after all is a type of education which will give young people right attitudes to enable them to live helpfully in their communities. Home Economics has the largest opportunity of any group in modern education if we will place more emphasis on creating and on a wholesome philosophy than in environmental factors which have so long composed our teaching program.

Martha Van Rensselaer,
Director New York State College of
Home Economics.

Georgia News Letter

WE congratulate the Georgia Home Economics Association on its large and newsy News Letter, which came to us recently. We hope that other states will send us copies of their Letters.

Important

IF you wish THE HOME ECONOMIST to be forwarded to another address for the summer, or wish us to hold copies until September 15, please notify us promptly. Good things are printed all through the summer months, and we are sure you do not wish to miss them. Many magazines are lost annually by neglect to notify post office or publisher of change of address.

The History of the American Dry Milk Institute

By H. E. VAN NORMAN
President, American Dry Milk Institute, Inc.

UNCERTAIN supply, fluctuating price, and generally unsettled conditions in an industry affect disastrously producer and consumer alike. Most of these evils result from lack of reliable information. Statistical service within an industry often is a sufficient guide to eliminate much of the disturbance.

In the dry milk industry a chart of prices and of stocks, taken from government figures, showed an acute shortage early in 1923, which resulted in a sky rocketing of the average price to 13¾ cents in August of that year.

A two-fold result followed: A rush of manufacturers to make every pound of dry skim milk possible to sell at these prices, and a rush of bakers and other users to refigure their formulas to eliminate the dry skim milk. Stocks began to pile up and price to fall off until by July, 1924, stocks were at 14,000,000 pounds compared with 1,700,000 pounds 18 months previously. By October price had reached its lowest point, 5½ cents below the high of 14 months before, and, with a less-than-cost return there was no longer any incentive to manufacture.

In 1925, the American Dry Milk Institute was established, and in spite of rapidly increasing production since that time (1927 estimated output 52% greater than in 1924, and 69% greater than 1923), price has never risen so high nor fallen so low as previously. The maximum range of the last decline, February, 1926, to February, 1927, was less than 3 cents.

The American Dry Milk Institute, Inc., is an association not for profit, incorporated under the laws of Illinois. Its membership is continuing unless notification is made, at time specified in by-laws, of desire to withdraw. It is financed by definite assessment on the unit of output, and the payment of dues is made monthly on the previous month's production. Expenditures are made according to a definite budget prepared in advance for each calendar year.

Active administration of Institute affairs is in charge of a full-time salaried president. Details of policy are approved by special committees of three members each, including committees on research, on promotion on standards, and on statistics. The budget and general policy are subject to the approval of the executive committee of seven which meets quarterly. The by-laws permit the ad interim approval or rejection of urgency matters through committee action by telephone, telegraph, or letter.

ONE of the three primary objects in the formation of the Institute is that of statistical service to the industry.

Figures of production, sales, stocks and prices received have been gathered, compiled and disseminated by the Institute within two and a half weeks after the end of each month.

H. E. Van Norman

These have supplied a valuable guide to manufacturers.

Statistics, however, have been less than half the story in the effort to smooth out the curves of stocks and prices.

Education of the user, and of the prospective user, has had an effective influence on the consumption of dry skim milk. Rapidly increasing production has been absorbed by new users, and while larger stocks during 1926 resulted in a moderate price decline, already referred to, sales have not lagged far behind production and the extremes of the price curve have been largely flattened out. Stocks which at the beginning of 1927 were considerably in excess of normal are now down to what is considered normal, due to increasing sales following the educational work to which I have referred.

Back of education lie facts. To command the public "eat more corn" or "eat more bread" or to tell the baker to "use more dry skim milk" is a waste of breath unless you tell why. Tell the baker what dry skim milk and more dry skim milk will do for his bread, his cakes, his pies. Show him how it will improve his products, increase his sales, boost his profits, and fatten his bank account. Tell him how to use dry skim milk to get these results. In using these specific terms, I have in mind of course that any industry may substitute for "the baker" its own class of users, and for "dry skim milk" its own commodity. The statements will still hold.

So our first step has been a search for facts. Institute dues have made it possible to support research fellowships at the American Institute of Baking, at the Technical Bureau of the Biscuit and Cracker Manufacturers Association, and at two or three state universities where the uses of dry skim milk in bread, ice cream, and animal feeding have been investigated. In other research work the Institute has supplied the materials or in other ways cooperated.

New and interesting facts have resulted.

In the baking industry, for example, we have learned that with any one of the three representative types of flours used in the experiment, the quality of a loaf of bread, as indicated by total score on the American Institute of Baking scoring method, consistently increases as the amount of dry skim milk used in the dough is increased up to 7%, or 7 pounds of dry skim milk for each 100 pounds of flour. There is a scientific basis for using 4 or 6 per cent of dry skim milk where one and two per cent may have been used formerly. Six per cent, incidentally, is the amount that will supply the same amount of skim milk solids that are present in a bread when all the liquid used in making that bread is liquid skim milk.

We have learned also that the addition of a pound of dry skim milk to the dough requires the addition of approximately a pound of additional water with the result that the increased yield of bread amounting to 15 or 20 loaves or more per barrel of flour just about pays for the cost of the dry skim milk used. In other

(Continued on page 131)

Five Dollar a Week Meals
at
Marshall College

By LYLA ILES
Manager, Marshall College Dining Hall

AUTHOR'S NOTE:—At Marshall College we aim to give our students the right food, keep them happy with it, and charge them cost price for it. In a limited way we are successful. We meet the same obstacles that all schools serving food at a low cost meet, and we probably go around or over these obstacles in much the same way that other schools do — when it is impossible to remove the trouble. We do serve good food in sufficient quantity and keep within our budget. This article touches on some of our policies and methods in dining room management.

AT Marshall College, Huntington, West Virginia, five dollars a week meals are served the year 'round in the College Hall dining rooms. At present one hundred and forty young women assemble three times a day, are seated six at a table and are served by student waitresses who are working for their board. The food is brought to the table in bowls and platters and placed before the host and hostess at the table. The bowls are refilled as often as is needed. A flat rate of five dollars a week is charged students for their food.

The aim in operating a dining hall at Marshall College is to make available to the student a properly balanced diet, an attractively served meal, food in sufficient quantities to satisfy the appetite and the body needs—all at as low a cost as possible. We also attempt to educate the student along food lines.

The following menu for a week is typical and is an exact copy of menus recently served.

Monday
Breakfast
Orange (half 150 size)
Oatmeal with milk
Bacon Toast Butter
Coffee with cream

Luncheon
Vegetable soup with crackers
Fruit salad Rolls and butter
Suet pudding, lemon sauce

Dinner
Roast Beef
Mashed potatoes Fresh Spinach
Graham and white bread Butter
Apple and raisin salad
Strawberry Jello, whipped cream

Tuesday
Breakfast
Grapefruit (half size 80)
Bran Milk
Toast Cinnamon rolls Jam
Coffee

Dining Hall, Marshall College, Huntington, W. Va.

Luncheon
Creamed asparagus on toast
Pear and cottage cheese salad
Bread and butter
Chocolate pudding

Dinner
Breaded pork chops
Browned potatoes Apple sauce
Pickles (mixed) Bread and butter
Harvard beets
Ice cream with pineapple sauce

Wednesday
Breakfast
Orange
Puffed wheat
Scrambled eggs Toast
Coffee

Luncheon
Baked beans with bacon
Cole Slaw
Boston brown bread and butter
Doughnuts Canned apricots
Tea

Dinner
Swiss steak
Steamed potatoes Corn pudding
Graham rolls Butter White bread
Mixed fruit salad
Chocolate cake, whipped cream

Thursday
Breakfast
Dried prunes
Cream of wheat
Bacon Biscuits Butter
Coffee

Luncheon
Cheese souffle
Green beans Graham muffins
Cabbage and celery salad
Fruit cup

Dinner
Baked spiced ham
Candied sweet potatoes
Buttered turnips Glazed apples
Head lettuce salad
Bread Butter
Peach shortcake

Friday
Breakfast
Grapefruit
Cornflakes
French toast Syrup Butter
Coffee

Luncheon
Cream of tomato soup Crackers
Devilled egg salad Olives
Bread Butter
Baked apples

Dinner
Broiled haddock steak Tartare sauce
Creamed potatoes Buttered carrots
Rolls Butter
Celery hearts
Lemon pie

Saturday
Breakfast
Oranges
Bran Hot cakes Syrup Butter
Coffee

Luncheon
Sauted liver
Browned potatoes Sauerkraut
Bread and butter
Canned peaches

Dinner
Broiled beef steak
Hashed brown potatoes
Creamed corn Fresh kale
Bread and butter
Pineapple delicious

Sunday

Breakfast

Dried prunes
Wheatena
Fried eggs Toast Butter
Coffee

Dinner

Baked chicken, dressing
Mashed potatoes Buttered peas
Rolls Raspberry jelly
Apple and celery salad
Ice cream, chocolate sauce

Supper

Salmon salad (including eggs, cabage, green pepper, pickles)
Rolls Butter
Cocoanut cake Canned pears
Cocoa

There is no menu or set of menus repeated every week or ten days. The next week's menu or any other week would be entirely different, yet built on the same general plan.

These points should be mentioned. Whole milk and the best creamery butter are supplied to the tables in unlimited amounts. Canned fruits are the highest grade; canned vegetables are of good quality. The bread is baked in our own bakery. All the fresh fruits and vegetables that are on the market are used. Such items as tomatoes at forty cents a pound or brussels sprouts at sixty cents a quart are, of course, exceptions and are not within our cost limit.

The food is prepared in the College Hall kitchens. Five colored people do all the work. The manager plans the menus, buys the food, equipment, etc., and supervises all of the help. Eight student waitresses take care of the dining room service. Each employee has certain definite duties to perform. Especially good work gets the praise it deserves. Poor or careless work is criticized, the cause discovered and the remedy applied. The chief causes for poor work are:

1. Lack of understanding of the job to be done.

2. Lack of skill that is acquired only by experience.

3. Lack of time to do work properly.

4. Indifference.

The first and third causes fall directly on the manager's shoulders. She has not fully instructed the employee or has given him too much work to do. The second and fourth causes have to do with untrained or inferior help (such as must be employed when the cost of labor must be kept down). A poor worker should be given a chance. If he responds to direction and encouragement he is worth much of the manager's time. If he cannot or will not learn to do work well, he should be discharged.

What is the cost of labor and what expenses are covered by the five dollar a week charge? are questions we often hear. The money is spent as follows:

Salary and wages, 16%, or $.80 per guest per week.

Food, 60%, or $3.00 per guest per week.

Miscellaneous, 24%, or $1.20 per guest per week.

Ice, laundry, depreciation and surplus are some of the items included under miscellaneous. Rental, water and gas are not charged to the boarding department.

Another question that comes frequently is: How can so much food be served for so little money? A complete answer to that inquiry would involve a whole course in cafeteria or dining-room management. A few general rules can be given:

1. Know food costs and food values and buy in cheapest quantities.

2. Know food needs (the number of pounds of lettuce or of beef needed to prepare the lettuce salad or roast beef on your menu).

3. Keep careful check on your store room. Be sure that all supplies from it are used in your own kitchen.

4. Prevent waste by (a) looking over the left overs at the end of every meal and planning at once for the use of these left overs. (b) Watching food in process of preparations. A whole potato need not be thrown in the garbage can because there is a spot or two on it. (c) Eliminating the "bad luck" factor operating so often at the chef's range and the baker's oven. Hit and miss methods need not be allowed. Recipes should be carefully worked out and followed. The workers learn that a standard product is possible and is expected. (d) Buying in cheapest quantities. This bears repetition and is a point worthy of explanation under prevention of waste. The quantity to be purchased depends upon the quantity immediately needed, the perishability of the article, and the relation of present price to future price. Storage may have to be considered. To buy five tierces of compound to get a cut of one cent a pound on the lot is foolish if one tierce a month is needed. Three crates of cauliflower at $3.00 per crate is higher priced than one crate at $3.50 if only the one case is needed.

5. Interest all of your employees in the rules given above and secure their happy cooperation in following these rules.

It will be noticed that more attention is given to keeping the food cost to normal than to the other items on the budget. The reasons are obvious. Salary and wages when once established are not changing daily. Costs of miscellaneous items remain fairly constant. And sixty per cent of receipts is spent in the purchase of food.

A manager knows that she may keep within her cost limits, may plan perfect meals, have them well prepared and served and yet not satisfy her guests.

The college student is a most difficult person to satisfy. He has only slight acquaintance with some foods, and a decided dislike for others. Chief among the foods composing his "don't like list" and listed in the order of their unpopularity are the following: Spinach, carrots, asparagus, kale, parsnips, turnips, olives, celery, pineapple, hominy, blackberries, rice, beets, graham bread, eggs, milk.

These foods, or at least part of them, should be included in the dormitory meals. The school feeding manager should adjust her plans to the group to which she is catering, but to do this she could not sacrifice dietetic principles of menu planning and limit variety to the few very popular foods. The student, with tactful coaxing, will learn to use new foods much as he learns to use new words and he will find them just as useful and necessary. Thus may one cause of complaint be met. We cannot discuss here the many other possible causes of trouble or their remedies.

What is Celanese?

(Continued from page 121)

counts for much of the experimentation with it that is being carried on continuously by manufacturers of novelties in silks, woolens and cottons.

Celanese is characterized as the most romantic of the new fibers because it is one of those extraordinary by-products of the Great War that is earning for this current period of world progress the title of Chemical Age. Discovered and perfected by brother chemists, Doctors Henry and Camille Dreyfus, who head respectively the British and the American Celanese corporations, cellulose acetate was produced during the war as a protective coating for aeroplane wings, to give them tautness, strength and weather resistance. Celanese yarn is the result of several years of effort to convert this war-time industry into commercial usefulness.

It was not until 1925 that the first American-made Celanese fabrics appeared on this market, although by

(Continued on page 128)

The Development of a New Ready-to-Serve Breakfast Food

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ONE of the purposes of the founding of the Industrial Fellowship of H. J. Heinz Company at Mellon Institute was the development of a new ready-to-serve breakfast food. During the last thirty years a large number and variety of this class of food products have appeared on the market. A majority of them have had only a small sale and a transient existence. A few, however, have survived many years and have yielded good returns to their manufacturers. The history of the prepared breakfast food industry indicated that if a new product was to be permanently successful it must have many features of genuine merit. Since the field is a highly competitive one the duplication or imitation of the successful products already on the markets was undesirable. Furthermore, it was the opinion of Mr. Howard Heinz that the ideal breakfast food had not yet been produced, and that extensive scientific research covering the whole field should lead to the evolving of a product having a general superiority to any of the existing products.

BEFORE starting development work, all available ready-to-serve breakfast foods were critically examined and the criteria of excellence of an ideal prepared breakfast food defined. The standards conceived as the ideal are summarized below.

1. Palatability

The first requirement of any food product is that it must have a positive appeal to the taste. The flavor of the ideal breakfast food should be pleasing, but not too rich nor inclined to too easy satiation. It is desirable that the flavor be new and out of the ordinary, but at the same time not too remote from a normal cereal flavor. The user should not tire of the flavor when eating the product regularly.

The product should have good chewing qualities. It should not cling to the teeth and should be slightly mealy in chewing rather than gummy. It should be crisp enough to offer some chewing resistance, which is desirable for dental development. However, it should not be so hard as to make mastication difficult and unsatisfactory, nor too harsh so as to be unpleasantly rough in the mouth or injurious to the gums.

2. Appearance

Because breakfast food is generally eaten in the morning when appetite may lag, it is particularly important for it to have a strong visual appeal. Flakes of uniform size and some shade of golden brown or tan color are nearest the ideal for appearance appeal with the average person.

3. Keeping Qualities

The product must remain crisp not only until it is sold, but must stay crisp after opening for use if given reasonable protection.

It must not develop any strong or undesirable flavor or odor, nor lose its original flavor and become flat in taste.

4. Digestibility

Being chiefly consumed in the morning a breakfast food should be readily digested, giving a quick supply of energy with little burden on the digestive organs.

5. Food Value

The cereal is generally depended on in a well balanced breakfast to furnish an easily available supply of carbohydrate and protein for energy and tissue building. The fruit, milk and eggs ordinarily eaten at breakfast will supply the mineral salts and vitamins.

A large percentage of the people today, through faulty diet, sedentary habits and other causes are troubled with constipation. Breakfast foods being consumed regularly in uniform portions offer an ideal medium for increasing the roughage content of the diet which is recognized as being of great value in inducing normal movements of the bowels.

6. Uniformity

Any high class food product must be uniform.

7. Price

The ideal breakfast food, because of special features involving additional manufacturing expense, could hardly be the cheapest on the market. However, it should be sold at a price at which its consumption would not be prohibitive to the working classes.

THE choice of a cereal as the basis of a ready-to-serve breakfast food is practically limited to wheat, corn or rice. Other cereals, such as barley, oats, rye, kaffir corn, etc., because of their color, flavor, fat content, texture, and other physical properties, are unsuitable. After many experiments with all the common cereals, rice was chosen as the most desirable for the cereal raw material for the new product. It is the most easily digested of all cereals and is of high food value. It has a delicate natural flavor when toasted. The rice flavor being mild allows other flavors to be added and developed to full capacity. Milled rice is used instead of the brown whole rice. Brown rice has a strong flavor and after toasting in flake form quickly becomes rancid because of its high fat content. Only the fancy grade of the Blue Rose variety of rice obtained from the southern rice belt is used.

Undoubtedly one of the reasons why rice has never been used before in an extensive way for the manufacture of a flaked breakfast food is its tendency to become sticky and form gummy lumps during cooking, which is a serious practical difficulty in manufacture. This trouble has been overcome by a patented process[1] of cooking the rice with a sufficient amount of pure roughage material to coat the kernels and absorb superficial moisture thus keeping the grains separate.

RICE having been chosen as the ideal cereal for the new food, the next problem was the choice of a suitable roughage constituent which would give the product mild laxative properties without being irritant to the gastro-intestinal tract. A neutral color and flavor of the roughage material were also necessary in order not to affect the delicate flavor and light color of a rice product.

Natural food roughage, as present in celery, lettuce, spinach, fibrous fruits and the bran of cereals, consists

1. U. S. Patent 1,547,582.

of cellulose, a substance which indeed is present to a certain extent in nearly all natural vegetable foods. Because of its great value as an eliminative aid in the process of digestion cellulose may be considered as an essential food constituent. It was decided to add cellulose in a pure state to enrich the product in roughage material. By using a purified cellulose no color nor flavor was imparted to the product, and by using a cellulose reduced to the proper physical state a product was obtained which, while it was practically non-irritant, was proved to be effective in the prevention of constipation. The use of substantially pure cellulose for the enrichment of the roughage content of foods is protected by a patent granted jointly to Mr. W. A. Hamor and the author.[2]

Pure cellulose is chemically the same regardless of its source, but its physical form varies with its source and the method of recovery. After extensive research on many raw materials high in cellulose it was found that the rice hull would yield a very satisfactory pure cellulose. As rice hulls constitute a part of the whole rice grain and are so intimately related to the cereal basis of the product sought, this particular cellulose was selected as the one to be used for enriching the roughage content of the breakfast food. Extensive feeding tests were made on large groups of persons in two institutions under competent medical supervision, proving that, when the flakes containing rice cellulose were eaten daily, not only was constipation prevented in the case of normal subjects, but also in a large percentage of chronic constipation cases a marked improvement resulted. These results were further supported by feeding tests on white rats. The animals were fed diets containing relatively high concentrations of different kinds of cellulose. Those on the pure rice cellulose maintained good health and growth, and at the end of the test an autopsy showed no evidence of gastro-intestinal injury nor irritation.

THE formula was not complete until the flavoring constituents were selected and the most desirable percentages of each determined experimentally. Besides certain optimum percentages of sugar and salt, another flavoring material was added which in blending with the natural flavor of the toasted rice gives a unique flavor somewhat reminiscent of fresh popcorn. Incidentally, the food value of the product is increased by the addition of this flavoring constituent.

Hundreds of variations in the formula were tried before the final composition was selected. Before rejection these products were tasted and carefully considered by tasting committees in comparison with other experimental products as well as products already on the market. After the formula was selected a number of large scale batches were prepared to produce material for extensive tests on the keeping of the products in different types of packages. These tests not only proved that the product retained its crispness and flavor for a satisfactory period of time, but also showed that the best package for the protection of the product was a carton of the ordinary type used for flaked cereals, but having a liner and wrapper both of waxed paper.

THE experimental batches made to furnish material for keeping tests indicated the best process and equipment to be used in manufacture. The details of the final process and the best equipment for each step of the operations have been developed in an evolutionary way after months of experimental operation. The process is briefly as follows: The milled rice is received in hundred-pound pockets and is first put through a severe cleaning process, which removes all foreign matter which escapes in the original milling. The batch consisting of a mixture of the rice, roughage, flavoring material and water is cooked in a rotary cooker until a test shows that the rice kernels are all thoroughly cooked through. After cooling and partly drying the kernels, which are now coated with the roughage material are flaked individually by passing between pairs of heavy water-cooled steel rolls. The raw flakes are then conveyed to the continuous rotary toasters from which they emerge toasted to a light golden brown. The toasted flakes are then cooled and packed in automatic packaging machines.

After five years of scientific research and process development in the perfection of a ready-to-serve breakfast food, it is felt that the criteria of excellence conceived for the ideal product of its class are well met in the product developed. It is very palatable and has a unique flavor. The thick crisp flakes and their roughage content give the product good chewing qualities and the proper balance between the substantial and the dainty. In appearance it is attractive both with respect to color and uniformity. It remains crisp and retains its flavor. It is easily digested and an excellent source of energy. It has a proved laxative value by virtue of its content of a harmless roughage material. Finally, in spite of the fact that the roughage and the flavoring materials are very costly and rice, the aristocrat of cereals, sells at a price far above other cereals used for breakfast foods, it can be manufactured to sell at a price that is not excessive.

2. U. S. Patent, 1,495,789.

What is Celanese?

(Continued from page 126)

that time similar materials were established as successful in England, where they had a large distribution in knitted outer garments and underwear. The first American-made Celanese fabrics were likewise knitted—chiefly tricots for underwear; and this type of material is still an important part of the Celanese Corporation's output, resembling, as it does, a very high grade of soft and heavy glove silk.

By the early part of 1927, Celanese voile, a sheer woven fabric, had attained widespread popularity, and to many consumers the term Celanese means this shining, gossamer weave with the slight crispness that is characteristic of so many popular weaves of the moment. By the end of 1927 there were a number of Celanese voile prints on the market, and they provided the sensation of the wash goods departments in which they were generally sold. Their success accounts for the much larger production of these novelties for the 1928 season, and for the attention that has been given to the development of unusually charming print designs.

Rivalling the voiles at the moment are the moires. The interest of wash goods buyers was first directed to these moires because of their remarkable likeness to the more costly all-silk moires, and because, unlike other moires, they could be washed and ironed without losing their patterns. This is due to the fact that the watered effect is not a mere embossing, but is produced by a deflection of the threads that makes for permanence. Fashion has accommodatingly favored these materials by bringing in a vogue for moire, not only in the popular "Robe de style" for evening wear, but in daytime frocks and coats as well.

A long series of weaves quickly followed the first introduction of Celanese fabrics of which, next to Celanese voile, the satins, taffetas, ninons and moires have attained the widest over-the-counter distribution. Celanese faille, moire, and printed twill are used extensively in men's neckwear. Moire, in addition to its use in women's frocks, is being extensively used for draperies and for men's lounging robes. Celanese voile has been received with especial enthusiasm for drapery purposes, both because of the appearance and physical characteristics of the material itself and because its colors have an unusually high degree of washing-and-light-fastness.

Of the newest Celanese fabrics that are appearing on the market almost every week, particular interest has been accorded the marquisette weave

in plain colors for draperies. This fabric is also to be presented in unusual prints for formal gowns.

To date, Celanese has been known to the public chiefly through the tricot and voile or ninon under garments sold in the ready-to-wear departments and through the over-the-counter sale of yard goods already described. A recent display at the offices of the Celanese Corporation, however, revealed a surprising number of manufacturing fields into which Celanese fabrics have already penetrated. The developing interest of retailers in these products is attested by the fact that one prominent out-of-town store sent a group of eighteen of its buyers to inspect the display and to inquire into the facts about Celanese. Merchandise comprised in the exhibit, in addition to the frocks, lingerie, and other types already referred to, included ribbons, laces, brassieres, girdles, negligees, bathing suits, children's wear, men's shirts, raincoats, neckwear, handbags and traveling kits.

Research experts of the Celanese Corporation are working with manufacturers and other handlers of Celanese products in solving problems that are constantly arising in connection with the introduction of the materials. For example, intensive study has been given to the question of dry cleaning and dyeing of Celanese garments, and the findings have had widespread pubicity through agencies that reach this trade. The desire of some garment manufacturers to be able to use a hotter iron than was considered safe for Celanese has led to the discovery of a new finish, soon to be introduced on all Celanese fabrics, that will permit ironing at a temperature that would scorch silk. Practical help to the consumer, in visualizing the style possibilities of Celanese fabrics and in meeting dressmaking problems, is provided through traveling style shows under the direction of demonstrators, who are experienced in these matters.

Hotel and Home Economics

(Continued from page 122)

radical change in public eating habits and demands, the hotel field would continue to be closed to women.

Many progressive men in the restaurant field have given much attention, in the last few years, to the selection and preparation of the simpler well-cooked, tastily seasoned food so popular at the present time. Many employ trained food-experts whose business it is to offer well-balanced and carefully selected food on the menu and to oversee the preparation of the food. The restaurants that have been most successful are those that have given greatest attention to the simplest foods. For several years I had the experience of being a dietetian in a large cafeteria that made a speciality of home-cooked food. Most of the regular patronage of this cafeteria was drawn from people who did not have to consider expense, but who came day after day, carried a tray, ate in a crowded room, sat at a table with strangers, for no other reason than that they liked the food.

MR. J. L. Hennessy, Head of the Restaurant Department of the Hotels Statler Co. was, to the best of my knowledge, the first hotel man to realize that the old time hotel method of preparing and serving food was no longer adequate to satisfy the popular demand for certain types of food. He equipped an Experimental and Research Kitchen in conjunction with the Executive Offices of the company located on the eighteenth floor of the Pennsylvania Hotel in New York. His idea was to put this kitchen in charge of a woman specialist with scientific and professional background and experience in actual preparation of large quantities of food, who should cooperate with the chefs in improving their methods to meet the changing public demand. I was very fortunate in being selected to fill this position and to work with Mr. Hennessy on this new project. The Experimental Kitchen is not a new idea in the restaurant field, it is found in the plants of large manufacturers of food products or of kitchen equipment. The Hotels Statler Co. Experimental Kitchen represents the first attempt of a large hotel organization in this direction.

The work is still in the pioneer stage. It is impossible at this time to give much definite information in regard to plans for full development of this department as we may have to change our method of procedure with experience. We have however some clearly defined aims that we shall always keep before us.

FIRST: To give our guests the opportunity of selecting from our menus well cooked foods that would satisfy the most critical or fastidious. To offer more dishes that may be classed as home-cooked. To serve vegetables that have been freshly cooked, and so cooked as to preserve flavor.

Second: To give more attention to so planning the menus that a guest may be able to select well-balanced meals, and also that foods containing the valuable mineral salts and vitamines are well represented.

Third: To give more study and attention to special diet planning, in order that our Restaurant Managers may be able to help a diabetic or an anaemic guest to select proper food.

Fourth: To gradually develop methods of taking care of our large restaurant business without preparing our foods too far in advance. Our slogan will be to prepare each day's food supply on the day it is to be served.

Fifth: The sampling and testing of food products before they are purchased for our hotels.

Sixth: The most important function of the Experimental Kitchen will be to thoroughly test all recipes before they are sent to our hotels. We are planning to take one class of food at a time, get all the most popular dishes that are being served in the various Statler Hotels, compare recipes, select the best; and if the dish is out of the province of home cooked foods, to call in the chef who has prepared the dish with the greatest success and with his help work out a carefully tested and approved recipe, giving directions for its preparation. We shall always be on the lookout for new recipes. In this way we shall gradually work up a standardized recipe system. This will insure a regular guest of the Boston Statler that he may expect to get the same type of food when he is stopping at the Statler in Detroit. This last will be the biggest and the most important task of our new department.

For our first years work we have limited ourselves to one department. We selected the Pastry Department because it was the most abused and from our point of view the easiest of approach. We have studied most of the dishes made in this department that are in the home cooked class. We have thoroughly tested the recipes. We have not sent these recipes to all our pastry chefs for we have found that they have difficulty in following a recipe and in securing the individual, home cooked flavor that we desire. Because of this difficulty, it was decided to put in a Home Kitchen in our newest hotel, the Boston Statler, and to put in women cooks. In developing this work it is not our intention to do away with men cooks, but we are planning to have women cooks prepare the simpler foods that require individual attention and care.

AT present, women cooks are making cakes, cookies, desserts, nut breads, hot breads, etc. We hope that we shall soon have a woman pie-baker. Every thing, with the exception of nut breads and cookies, is prepared a few hours before it is served. Our hot breads are baked during the meal hour.

We have fitted up a separate kitchen in which our women are being trained. For practical future use, this would incur too great expense. As soon as we have proven that women cooks are better for certain classes of food, and that our guests show appreciation of this fact, provision will be made to equip our pastry kitchen so that men and women cooks can work together. The men will handle that class of fancy pastry in which they particularly excel, the women the simpler cakes, the pies, hot breads, etc. Another class of cookery in which women can often secure

(Continued on page 131)

Garment Construction

(Continued from page 120)

en an opportunity to develop. It became the student's responsibility to so plan his work for the course that each of the things listed was cared for in the plan of some problem, the instructor assuming no responsibility in this regard. This seemed as worth while as any part of the plan, since from the very beginning successful completion of the course was easily measurable by the student himself. Certain "jobs" were set up and interest or lack of interest and progress or lack of progress were entirely the concern of the student.

In addition to placing the responsibility where responsibility so largely belongs, if we are looking to the larger objective in each and every one of our courses—useful citizenship through the ability to successfully meet and discharge responsibilities—the possibility on the part of the student to distribute enterprises according to his particular pleasure contributed much to the maintenance of interest throughout the course. The possibility of choosing whether proficiency in the use of the binder attachment on the sewing machine could be gained on a child's play garment or a card table cover seemed to do as much to reduce the bugbear "required" as successfully as any device ever attempted. The universally felt rebellion against doing a thing for the sake of doing it seems so easily lessened and controlled to the mutual satisfaction of both student and instructor through a possible exercise of choices.

TO meet and discharge responsibilities successfully still left the burden of grading with the instructors, but in an attempt to make the work mean as much as possible for its own sake, no problem was graded according to a percentage or letter system but simply accepted or rejected according to demonstrated proficiency. If a process in construction or a principle in design were not presented as suitably made or applied, the student's original plan for the course was modified to permit of continued practice in the process on a garment or article to be made at a later date, where again the student was obliged to arrange for his own solution. Since the requirements were in hands of each student, individual bookkeeping was possible and did much toward making each student check his own plan frequently.

Habits such as accuracy and speed, which we all hope to give opportunity for development, were stressed and consideration of these was frequently the reason for reorganization of a plan in order that such habits might be given every opportunity. A poorly made bound button-hole might suggest the inclusion of a simple set-in pocket on another garment or a poor seam finish the repetition of that same finish in another place.

SUCH things as fabric selection offered greater difficulty to both students and instructors from the standpoint of checking, since these things are done as much outside of class as in, and it is possible to check only the results, with no opportunity to repeat the actual experience as is the case of construction processes.

Confidence in and respect for work well done, or knowledge thoroughly acquired, was another objective which was uppermost in our minds. At the beginning of the course, every possible effort was made to break down the teacher-student attitude and to build up the atmosphere of a cooperative group in which any idea or experience from any one, teacher or student, was worth as much as it could prove itself to be. Every student was urged to present methods or plans of her own, whether gained from previous experience or from application of principles given within the courses. This perhaps offered as great a teaching problem as any part

(Continued on page 132)

TO OUR READERS

We want THE HOME ECONOMIST to be YOUR magazine — to be made up of the kind of material that is likely to be of most value to YOU.

To help us to achieve this we are asking your help in the following questions. Will you answer them and return them to us with your name and address — or without that, if you prefer.

1. ***What type of articles do you find most helpful in your work?***
2. ***What articles or material that have been published in THE HOME ECONOMIST do you like most?***
3. ***What particularly interests you in this issue?***
4. ***Do you make use of our list of home economics commercial material? Would you like us to devote more space to telling about such sources of material?***
5. ***Have you any suggestions or criticisms on the magazine as a whole?***
6. ***What interesting work have you done in home economics during the year? Wouldn't you like to tell other teachers about it through the pages of THE HOME ECONOMIST?***

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A Correction

Studies on Bottled Cocoa Beverages—Part III

IN the April issue of THE HOME ECONOMIST we published Part III of "Studies on Bottled Cocoa Beverages," by W. R. Turner and J. B. Wilson with J. W. Sale. Owing to an unavoidable error, column headings were omitted on the table giving the composition of dried and skim milk powders. This, of course, makes the table, as it was published valueless.

We are glad to print below the corrected table as it should have appeared with sincere apologies to the authors and our readers.

Table 1 — Composition of Dried Milk and Skim Milk Powders

F. C. Laboratory No.	Moisture (1) %	Acidity (1) as lactic acid %	Ash (1) %	Protein (1) %	Fat (1) %	Solubility of Solids not fat (2) %	Peroxidase (3)	Process of Manufacture (4)
			Dried whole milk					
198-B	0.4	1.3	6.0	24.4	25.5	99.3	+	Spray
199-B	1.2	1.2	6.0	25.4	25.7	99.8	+	Spray
200-B	.5	1.2	5.6	24.6	29.4	98.4	+	Spray
201-B	.6	1.4	6.0	24.8	22.7	97.9	+	Special process
202-B	1.8	1.2	6.1	24.8	30.6	62.3	—	Roller
203-B	1.4	1.2	6.0	25.5	28.1	74.7	—	Roller
			Dried skim milk					
204-B	3.2	1.9	7.8	34.3	1.0	99.8	++	Spray
205-B	3.6	2.0	8.1	34.3	.5	99.7	+	"
206-B	6.8	1.8	7.8	34.0	.6	99.8	—	"
207-B	6.7	2.0	7.6	33.2	.5	99.8	—	"
208-B	5.5	1.5	7.9	34.3	.6	99.8	—	"
209-B	1.8	1.7	8.4	34.1	1.4	99.9	+	"
210-B	2.2	1.8	8.2	35.1	.8	96.7	+	"
211-B	3.7	2.1	8.0	34.6	1.0	99.2	+	"
212-B	1.2	2.0	8.2	34.9	1.5	98.5	++	"
213-B	3.6	1.9	8.0	34.4	1.1	98.4	—	"
214-B	3.2	1.7	8.0	35.4	1.3	99.6	—	"
215-B	3.2	1.8	8.2	34.7	.8	99.9	+	"
216-B	1.1	1.9	8.3	33.1	.2	99.6	++	"
217-B	.8	1.8	8.4	36.4	.8	99.6	+	"
218-B	2.5	1.6	8.2	35.8	1.6	95.6	—	"
219-B	4.9	1.7	7.9	35.4	.8	97.8	++	"
220-B	2.6	1.7	8.1	34.8	.7	99.6	++	"
221-B	6.4	1.9	7.9	32.7	.4	99.4	—	"
222-B	1.6	1.7	7.8	36.6	1.1	99.5	+	"
223-B	2.1	1.8	8.0	35.7	.5	99.9	+	"
224-B	1.0	2.0	8.3	35.5	.1	99.3	++	Chain
225-B	6.2	2.0	7.8	32.9	.3	96.0	+	Roller vacuum
226-B	2.8	1.6	8.2	34.6	.5	100.0	++	Roller vacuum
227-B	2.0	1.7	8.2	35.4	.5	96.3	++	Roller vacuum
228-B	2.9	1.5	8.1	33.4	1.3	96.0	—	Drum vacuum
229-B	1.7	1.8	8.3	33.6	.2	99.8	+	Special process
230-B	1.9	2.2	8.2	33.2	1.0	75.7	—	Drum
231-B	1.3	1.9	8.4	34.1	.4	69.3	—	"
232-B	2.1	1.9	8.4	34.8	.9	71.2	—	Roller
233-B	3.0	1.8	8.3	34.0	.8	71.1	—	"
234-B	1.5	1.8	8.0	35.9	.3	72.8	—	"
			Dried malted milk					
235-B	1.5	.9	3.4	9.6	7.2	98.9	++++	Roller vacuum

(1) Determined as in "Methods of Analysis AOAC" 1925. p. 275.
(2) By method of Lampitt and Hughes, Analyst 49, 176 (1924)
(3) Peroxide and aldehyde reductase were also tested for but none found in any of the samples. Determined as in Food Inspection and Analysis by Leach, 1920, p. 110.
(4) As reported by the manufacturers.

Hotel and Home Economics

(Continued from page 129)

superior results, is the cooking of vegetables. The principal problem here is to adapt their methods to the large scale necessary in the large hotel. As we put in women cooks it will be necessary, if we are to get desired results, to have a trained and experienced woman supervising them.

I should like to advise the girls who are graduating from our colleges in the near future, that if they feel that they would like to enter the hotel field, they must remember that such positions as I have outlined are not ready. They will have to serve a period of apprenticeship in order to learn the problems and demands of a hotel. If they are willing to do this, to receive a small salary at first, advance step by step, they will be able to make positions which only women with such background and experience can fill.

Dry Milk Institute

(Continued from page 124)

words, the better quality of bread is actually no more expensive than the cheaper quality.

We have learned also that the addition of dry skim milk in substantial quantities to the bread dough makes it more stable and reduces the probability of lowered quality which results from over-fermentation of a plain or water dough.

IN the biscuit and cracker industry a year of research has resulted in the development of new and improved formulas for some of the standard products of this industry, containing in each case dry skim milk where previously little or none was used.

Preliminary reports of a careful research project on dry skim milk in ice cream promise valuable new information on this subject.

With existing information and these new facts, the Institute has carried on its educational work through
Paid advertising in trade magazines,
Publication of Bulletins,
Preparation of articles for magazines,
Regular distribution of "Dry News",
Displays at conventions,
Talks at various meetings,
Showing of a moving picture film,
Assistance of a bakery service man,
Letters in answer to inquiries,
Helps to members—information, sales arguments, and so forth.

Distribution of this information has resulted in a growing appreciation of the commercial value of dry skim milk. By commercial value I mean the convenience and economy of its use, and the physical improvement

(Continued on page 142)

Garment Construction

(Continued from page 130)

of the course, since most of our students have spent their student years in schools of the "teacher-supreme" basis. During the early meetings of the course, the students were informed that while the instructors would guide the course, it was hoped that student enterprise would furnish as much as that of the teachers, the assumption being that every student, regardless of how meager her former experience had been, could contribute something. While the instructors hoped to be able to contribute as much as the total contribution of the students, all student enterprise would be considered as part of the teaching material for the course. To further the development of this type of responsibility on the part of the students, certain processes were demonstrated to the class by them and certain discussions for which they could prepare reasonably well, were led by them. This, of course, gave experience in leading the class as well as making the students responsible for a part of the knowledge or skills to be acquired. Whenever such work presented, the student also supplied the class with the sources from which she had obtained her information.

UNDOUBTEDLY some time was used on occasion throughout the course which, if the instructors had assumed full responsibility, might have been used to increase the quantity of work finished, but we like to believe that a much worth while result was accomplished and that in the future those students who lived through the experiment with us will meet similar problems much more successfully. There were times, the author must admit, when she wished most decidedly to present a proven method to a student and thereby expedite both her work and that of the student, but for the greater part succeeded in holding to her aim of, as much as possible, causing the student to think through the situation for herself and make her own applications and decisions. There were times when it would have been infinitely more simple to direct the distribution of a pattern, or to have demonstrated the correction of a fault in a sewing machine than to have stood by and watched the student find her own way out.

Despite such things, the plan made possible a most enjoyable teaching experience, one which has many places of improvement, so many that the author is timorous in presenting it at all and yet can recommend it to any one. While the experience is one which many readers have duplicated in part or entirely, for those who have yet to attempt such a departure from other methods of presenting such subject matter, it is recommended as one method full of possibilities to both student and instructor.

Pamphlets Received

"The Care of the Child's Food in the Home." By M. E. Pennington. The Household Refrigeration Bureau of the National Association of Ice Industries, 51 Chambers St., New York City.

"Sun Suits for Children." Leaflet No. 24. By Ruth O'Brien, in charge of Division of Textiles and Clothing, Bureau of Home Economics, United States Department of Agriculture. U. S. Government Printing Office.

"The Child Guidance Clinic and the Community." By Ralph P. Truitt, M.D., Lawson G. Lowrey, M.D., Judge Charles W. Hoffman, William L. Connor, Ethel Taylor and Fanny Robson Kendel. The Commonwealth Fund Division of Publications, 578 Madison Avenue, New York City.

"The Composition and Food Values of Margarine." Bulletin No. 10, Third Edition. By J. S. Abbott, Secretary, Institute of Margarine Manufacturers. 1049 Munsey Building, Washington, D. C.

The more they study it the better they like it

One of the interesting things about Carnation Milk is the fact that scientific authorities and technical experts in many fields are continually discovering in it new good qualities—and no bad ones.

Nutrition experts are proving that it is excellent from the vitamin standpoint, and that its minerals are valuable as body builders.

Specialists in baby feeding are proclaiming that it is more digestible than milk in any other form — a superior milk in all respects for use in artificial feeding formulas.

Housewives are finding that they can do better cooking with it than with bottled milk; and that it is more convenient and economical.

Commercial manufacturers of ice cream and candy are learning that their products are richer and of finer texture if made with Carnation.

Hotels and restaurants are discovering that through its use they can give their patrons better food and reduce costs at the same time.

Isn't it possible that *you* might learn something to your advantage by investigating this milk of manifold uses? We shall be glad to answer your questions.

Carnation Milk Products Company

565 Carnation Bldg., Oconomowoc, Wis.
New York

665 Stuart Bldg., Seattle, Wash.
Aylmer, Ont.

The tall can, diluted, makes an overflowing quart of pure, rich milk

Carnation Milk

"From Contented Cows"

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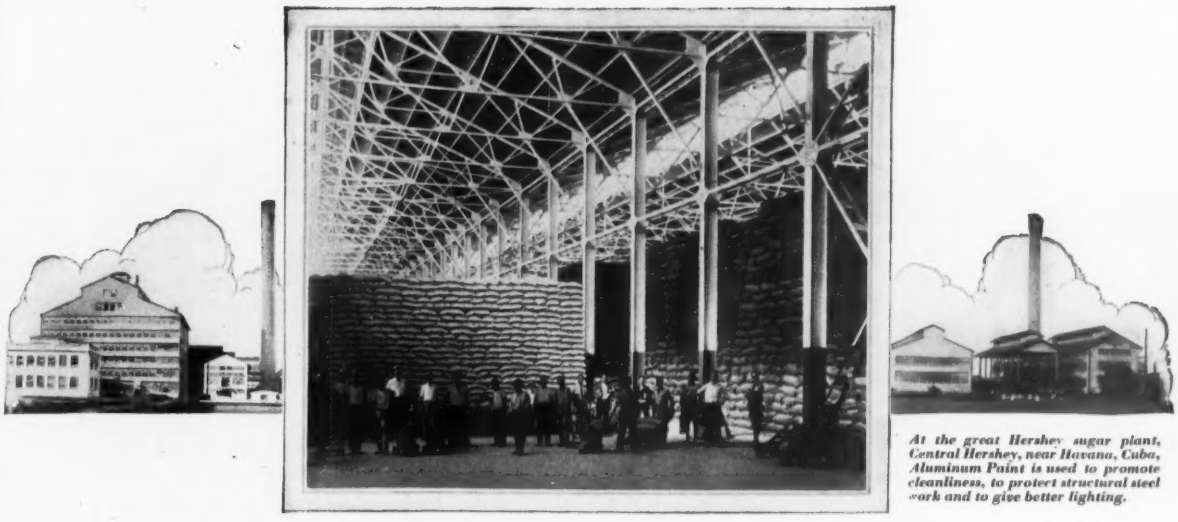

At the great Hershey sugar plant, Central Hershey, near Havana, Cuba, Aluminum Paint is used to promote cleanliness, to protect structural steel work and to give better lighting.

This "Coat-of-Metal" Promotes Cleanliness

IN every line of industry, the world over, ALUMINUM PAINT is fast being adopted as a standard for both interior and exterior surfaces.

But, of all industries, *food manufacturers* probably have found this clean, durable "coat-of-metal" most widely useful. For cleanliness and purity are so vital wherever food products are prepared.

ALUMINUM PAINT is made of flakes of pure Aluminum, in a suitable vehicle of oil or varnish. These tiny flakes overlap one another as the paint is applied. The result is a coat of pure metal—the same safe, non-rusting metal that every housewife knows and uses in her kitchen.

It is a remarkably efficient protective coating for surfaces of every kind—wood, steel, brick or concrete. It resists rust and is impervious to moisture.

Trade Mark

The best grade of Aluminum Paint consists of ALBRON (Aluminum Bronze Powder) and a suitable vehicle of oil or varnish.

ALBRON pigment is always made of pure ALCOA Aluminum.

The great sugar plants in the tropics use it to guard against the excessive moisture and humidity to which their buildings and equipment are subjected.

ALUMINUM PAINT cannot contaminate foods. It does not discolor easily. And it may be washed down very much as you would wash down tile.

Use ALUMINUM PAINT on walls, ceilings, exposed pipes and machinery. Its silvery gray color spreads an abundance of light to every corner of the plant—agreeable light that reflects an atmosphere of cleanliness.

Write for the booklet, "Aluminum Paint." It contains valuable information about this modern protective coating.

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THE COAT OF METAL PROTECTION

ALUMINUM PAINT

"IT LEAFS"

"Do—Do—Then Do Some More"

(Continued from page 119)

biggest point here was cleanliness).

V. How a clean town would benefit us: a. Health; b. Beauty; c. Financially.

VI. How the citizens of the town could make it cleaner and more sanitary: a. Incorporation; b. Herd law; c. Civic interest.

VII. How the children could make it cleaner: a. Careful with garbage; b. Keep streets free from paper, rubbish, etc.; c. Help mend fences, keep yards clean, etc.; d. Tell parents what they have learned and try to get them interested in improving our town.

We made our town on the sand-table, wrote compositions about it, told stories and made pictures of how it could look.

The lesson did not change the town but it made the children think, and influenced some of the parents, and the booklets we made went into many homes; so perhaps a seed was planted if nothing else was done.

The next lesson I taught was Personal Cleanliness. I made a large poster with the following stations: East Toothbrush, Bathtubville, Hankie Junction, Little Cleanface, Cleaners, Hairbrush, etc. We cut out two cars and each child cut from a catalogue a picture to represent himself. Then we started our trip. If a child did not perform the required health chore he was removed from the car and forced to walk. I had very good results with this. I had one little boy the first part of the year who was really about the dirtiest child in the school. He never combed his hair, his ears were crusted, he looked as if he slept in his clothes, and his face and hands were always dirty. At first the trip did not impress him a great deal, but when he was the only child in the room who had to walk and he was being pointed out by the rest of the children the result was surprising. He developed a slick pompadour, his ears shone, and his clothes were not so mussed, although there is still room for improvement on his clothes. His zest did not end with the end of the trip for he is still striving to be as clean as the rest of the children.

I next took up vegetables. We had a race to see which vegetable was king and which row ate the most. We decided that the vegetable the children ate the most should be king—carrots won.

After this I taught all the health rules, we made posters, wrote compositions, told stories and had silent reading lessons about them.

The next problem was to make the rules habitual. To do this I made an outline of a Dutch house for each row. We chose Dutch houses because we decided that the Dutch were the cleanest, healthiest people.

We checked up on the following health chores: teeth, vegetables, sleep, cleanliness. When everyone in the row performed the duty I marked a star in that square. Every five stars I pasted a board on the house. At first there was one boy who always kept his row back by not washing his teeth. But the rest of the children made it so "hot" for him that he began washing them and he has never missed since.

Before we started sleep and rest, I had quite a few children who attended the movies every Wednesday, Friday, and Sunday nights. As soon as we started checking up on it all the children except two boys gave up school night movies. But these two liked the movies too well. At first their row was ahead but it kept falling back until it was third. This was cause for alarm. They investigated and found it was the show that was keeping the row behind. They had a hard time deciding but I was very much pleased a week ago when they came to me with the decision that they were not going to any more movies, but were going to save their money and get their Dutch house built first.

Our next project is to build a House of Health by obeying all the health rules. The children who do these will get to live in the House of Health.

In my room now everyone washes his teeth, eats vegetables, goes to bed before eight-thirty or nine and plays in the fresh air. Before school is out I shall expect everyone to do all the health rules.

I have tried to correlate all my health work with Language, Reading, Civics, Spelling and Art. We have written compositions, made up stories, made booklets and posters and have had some very good oral compositions. In fact my health work has been my best means of securing the aims in Language for second grade.

These fragmentary reports give only a hint of the health teaching that is going on today in the schools of Marion County. They show, perhaps, what remains to be accomplished quite as much as what has already been achieved. But they show, too, that the will to be healthy, and the teacher's wish to implant that desire in her children, can rise superior to all the difficulties of the one-room country school.

It's fun to cook *with* Parchment

This new method—cooking in Patapar—retains all the delicate natural flavors of the food.

Easier than old ways

When you cook in Patapar you actually save time and trouble. Lay the prepared fish, meat or vegetable on the moistened square of Patapar; add butter and seasonings, gather the corners and edges up forming a bag, and tie tightly, with a white cord. When cooked, simply untie the bag and turn the food into a warm dish, ready for serving.

Patapar cooking keeps pots and pans as bright as new—no scouring!

You can use Patapar over and over again

Patapar *The new cookery parchment*

Cooking booklet—free!

Anne Pierce, food authority, has prepared a special booklet explaining how to save food values with Patapar. To everyone who sends for a trial supply of Patapar we will gladly include the booklet—free!

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Original Makers of Genuine Vegetable Parchment
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Enclosed find $..... Please send postpaid ..... packages of Patapar, the new cookery parchment, and the booklet telling how to use it. (Add 5c per package west of Denver.)
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Kellogg's

Health Score *for* Every Pupil

HEALTH teaching in the modern school is a vital part of each teacher's program.

If a child is not doing good work the teacher inquires into the cause—how many hours of sleep is he getting—is his home environment pleasant—are teeth, adenoids and tonsils in good condition—*is he getting the right food?*

Food—how important this item is! It is food that, during childhood, lays the foundation of health and body development—which means a happy, healthy adult life.

Breakfast for growing children is essential. It gives the energy required to carry active boys and girls successfully through their morning's work. Teachers who have made a study of the food habits of their pupils have found a direct relation between good food and good school work.

Kellogg's Cereals have a unique place in boys' and girls' breakfasts. Kellogg's Corn Flakes are conceded to be *the most popular cereal.* Served with fruit and milk they appeal to everyone.

Kellogg's Krumbles are made from whole wheat and with milk form a nutritious beginning to a day which will be filled with various activities.

Other Kellogg products are ALL-BRAN, Pep Bran Flakes, Kellogg's Shredded Whole Wheat Biscuit and Kaffee Hag Coffee.

To help the teacher help the pupil to eat wholesome breakfasts—and other meals as well—the Kellogg Company has published an attractive booklet on health with loose leaf menus and score chart inserted. (Additional copies of menus and charts may be secured on request.)

Send for this booklet "Who Are the Kellogg Kids?"—the health habit story of three normal children who enjoy eating, sleeping, playing and studying.

HE-5

KELLOGG COMPANY
Home Economics Department
Battle Creek, Michigan

Please send me a copy of "Who Are the Kellogg Kids?"

Name_____

Address_____

SOURCES OF MATERIAL
for use of
Home Economics Teachers

Below are listed booklets and other helps to home economics teachers. Send your request direct to the manufacturer, being sure to ask for material mentioned in THE HOME ECONOMIST.

Teacher's Outline for a Domestic Science Course

A series of interesting bulletins with lesson plans.

R. B. Davis Baking Powder Co.
38 Jackson Street, Hoboken, N. J.

Meat Charts and Recipes

A series of charts showing the various cuts of meat and their uses, also unusual recipes, adapted from French cookery on filing cards.

Swift & Company,
Home Economics Department
Chicago, Ill.

Sunkist Domestic Science Bulletins

A series of monthly lesson leaflets furnished in quantity for class distribution during eight months of school year, to home economics classes. Fruit recipes.
A School Lunch Bulletin and diet booklet, "Telling Fortunes with Foods" will also be sent.

Dept. H. E., California Fruit Growers Exchange, Box 530, Station C.,
Los Angeles, California

A Catalogue of Special Diet Foods and Equipment

A booklet listing foods and equipment adaptable to the diabetic or obesity diet. Helpful to dietetics instructors offering diet in disease to college students.

The Chicago Dietetic Supply House,
1748 West Van Buren St.,
Chicago, Ill.

"The Art of Making Bread"

Beautifully illustrated booklet, containing chart, picturing and explaining every step in bread-making. Also Wall Chart for Class Use and Outline of a Course in Bread Making.

Northwestern Yeast Co.,
1750 North Ashland Avenue
Chicago, Ill.

"Sunland Cookery"

A monthly bulletin devoted to dried fruit cookery with historical data, laboratory research, and recipes. Sunland Cookery Club Recipe Book, for girls of grammar and junior high school. The Story of Dried Fruits, with 80 recipes.

Sunland Sales Cooperative Association,
Fresno, California.

"Food Value of the Banana"

A 24-page booklet, with cover in five colors, presenting this subject in text and tables, on authority of leading dietitians.

United Fruit Company
Research Dept. 1 Federal Street
Boston, Mass.

Height and Weight Charts

An approved chart for boys and girls showing weights for different ages and heights. A copy should be in every child's hands to show them the importance of proper nutrition. 5 cents a copy. In lots of 10 or more 2 cents each.

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A Young Woman

who is an enthusiast about THE HOME ECONOMIST and also is going to the convention of The American Home Economics Association. We want this person to spend part of her time in our booth and receive subscriptions. Liberal arrangement made.

Write at once for details.

THE HOME ECONOMIST
468 Fourth Ave. New York

Lives of Leaders

(Continued from page 117)

man assured me that he did not wish to have a new secretary to complete the report, and that when he was really ready to make the final report, he would request my return. Accordingly, in October I went back for ten days and finished the important business of making the awards of mineral waters.

THE summer following the Chicago's World's Fair, acting upon the advice of my good friend, Doctor Smith, I asked permission to study in the summer in Professor Atwater's laboratory. He replied that there was no summer session, but that Doctor Charles Woods and Doctor C. F. Langworthy would be in the laboratory and he would be glad to have me come for work if I chose. So I went to Middletown and began my acquaintance with Professor Atwater and his laboratory workers, among them Doctor H. C. Sherman, for many years well-known investigator and author of Columbia University. I spent most of the time in analyzing food products.

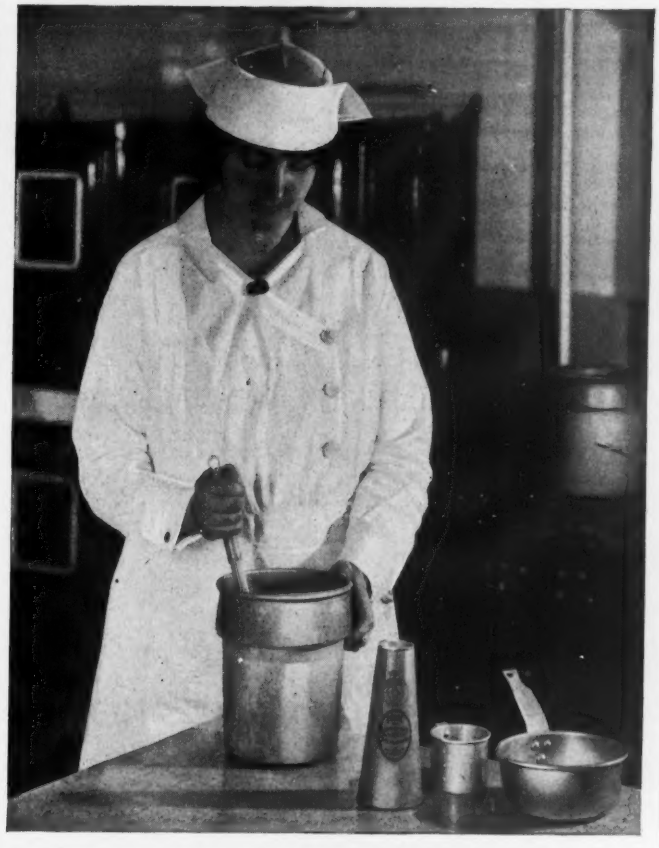
When I was about to leave, I asked Professor Atwater what the charges would be for my instruction, laboratory fees, etc., and he replied, "Nothing." He told me that years ago when he had returned from abroad and wished to work at analyzing foods Doctor Baird of the National Museum, Smithsonian Institution, had given him his opportunity and he would do the same for me. I was quite overcome by his generosity. He also asked me if I cared to do work in addition to my teaching at Pennsylvania College. I said that I thought I would like to work with bread, and he said he would be glad to have me do so. Later, when he came to Pennsylvania College, it was decided that I should undertake some dietary studies in Pittsburg, also a bread study with the United States Baking Company.

ALL of this work was most interesting. The dietary studies brought me into contact with the people from the Settlement House, because the entree to some of the homes was secured through the Settlement. I made, for example, a dietary study of the poorest family in Cherry Alley and the most prosperous one in Polish Row; also of a lawyer's family in one of the Pittsburg suburbs. We tried to make the nine studies typical of families representing different scales of living. In this work I was assisted by Miss Luella P. Meloy, now head of sociology in Pennsylvania College. During the holidays, I went back to Middletown with the samples of bread which I had secured and prepared, and analyzed them in Professor Atwater's laboratory.

By the time the year ended I had decided that nine years at a woman's college was all that I wanted, that I would take a year for study and then

(Continued on page 140)

The BEST COOKS *use* Aluminum



At Battle Creek Sanitarium, in main and diet kitchens, all cooking is done in aluminum utensils

In Renowned Sanitariums

Whose judgment could you more confidently follow in the selection of kitchen equipment than that of institutions like Battle Creek Sanitarium, where medical and dietetic experts ceaselessly study the health-building properties of right food, rightly prepared?

At Battle Creek they cook everything in aluminum. They use aluminum because it cooks everything well, because it holds and transmits heat, because it is durable and economical, because it is unaffected by food acids, and because it is easy to keep hygienically clean.

What invaluable qualities these are; how essential in the *home!* Surely it is no wonder that so many thoughtful women have adopted utensils of this admirable "modern metal" as the *foundation equipment* of their efficient kitchens. . . .

The best cooks use aluminum.

MAIL COUPON FOR BOOKLET

ALUMINUM WARES ASSOCIATION
Publicity Division, 844 Rush St., Chicago

Please send booklet, "The Precious Metal of the Kitchen," to address written below:

Home Economics for Boys

(Continued from page 116)

term to observe the instructors apply their fine fund of child psychology to the thirty infants from two to four years of age.

No student who has gone has failed to come back with a new vision of what child training and its relation to adult education means; and more real psychology is learned in one forenoon than in many theoretical lectures.

So enthusiastic are we over this phase of education that we hope eventually to work out schedules where students will go to the nursery school for longer periods of time and actually assist rather than observe as they do now.

Other topics dealt with in this connection are home finances, budgets, investments, savings, legal knowledge needed to safeguard the home, family problems, and the responsibilities of a father.

Frank discussion of the latter brings to light many of the handicaps under which the youth of today is struggling through faults of own parents.

Social Life—Third Aim

So keen are young persons of the teen age to conform, to do the correct thing (and this is said in spite of the pessimists' remarks) that it is a decided pleasure to help them in problems of etiquette and social customs. The living room of the practice house is twenty-four by thirty-three feet and therefore amply large enough for a class to gather about the log fire there to rehearse the salient points of thoughtful actions in theatre, train, cafe, at dances and at other parties.

The term luncheons provide real practice in social usuage — invitations, acceptances, duties of a host, introductions, table service, dining etiquette, etc.

The boys of one group invited their favorite girls as guests of honor. They tore through the hectic morning of flower arrangement, table setting, vacuum cleaning, food preparation, off to a "solid" that couldn't be missed, back again to don cap and apron and pick up yet-to-be-finished tasks, and then as the noon hour arrived back into their best suits, worn especially for the occasion, to go to meet the girls and to bring them to the Practice House rather than let them find their well known ways alone!

Some may contend that the home should teach all this. Perhaps, but it doesn't, and as one well reared boy who did not really need training in correct manners said, "I may have known lots that this social side has taught me but I now have confidence. I am now sure that I know the correct thing to do and am not so easily embarrassed."

Much of content material has been given under aims. During the semester each member of the class takes some subject as his special one for study and on this he gives an oral report. Some not already mentioned are:

Community Interests

Safeguarding the home by

1. Safe milk supply.
2. Adequate pure water.
3. Proper sewage system.
4. Clean markets.

(Continued on page 144)

Be sure and answer the questionnaire on Page 130

Mothers don't complain about *this* school lunchroom food

"Are my children getting wholesome, digestible foods at school?" wonders the careful mother.

Appreciation of this natural anxiety on the part of mothers explains why so many school lunchrooms use Crisco, the pure vegetable shortening and cooking fat.

Crisco is neutral in flavor; 100% fat; packed under ideal sanitary conditions. It is usable for every cooking purpose — deep and shallow frying; the making of delicately flavored cakes, pies, biscuits and pastries; the enriching of sauces and gravies.

We'll be glad to send you a booklet entitled "A Manual of Cookery," which contains recipes for using Crisco in a variety of interesting ways. The coupon below is provided for your convenience in requesting a free copy.

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Please send me, without cost, a sample copy of the "Manual of Cookery."

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Street .....

City .....State .....

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912 of The Home Economist and The American Food Journal, published monthly at Floral Park, N. Y., for April 1, 1928.

State of New York,
County of New York, ss.:

Before me, a Notary Public in and for the State and county aforesaid, personally appeared J. T. Emery, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Home Economist and The American Food Journal, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912 embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, and business managers are:

Publisher. The Lakeside Publishing Co., 468 Fourth Ave., New York City.

Editor, Jessie A. Knox, 468 Fourth Ave., New York City.

Managing Editor, Jessie A. Knox, 468 Fourth Ave., New York City.

Business Manager, J. T. Emery, 468 Fourth Ave., New York City.

2. That the owners are:

The Lakeside Publishing Co., 468 Fourth Ave., New York City.

J. T. Emery, 468 Fourth Ave., New York City.

Karl M. Mann, 468 Fourth Ave., New York City.

Caroline Dexter, 468 Fourth Ave., New York City.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (if there are none, so state.) None.

4. That the two paragraphs next above, giving names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is.....(This information is required from daily publications only.)

J. T. EMERY.

Sworn to and subscribed before me this 29th day of March, 1928.

ETHEL M. GOODWIN,
Notary Public, New York County.

Form 3526—Ed. 1924

(My commission expires March 30, 1928.)

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write to Miss Marye Dahnke, head of our Home Economics Dept., for some of the interesting and helpful literature we have prepared on cheese and its uses? Cheese is such an important food that no one should be without a thorough knowledge of the great variety of ways to serve it as well as its dietetic value. This literature is free, just check off on the coupon below copies you would like and it will be a pleasure for us to send them.

Home Economics Dept.

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Who is MARTHA ADAMS?

MARTHA ADAMS is the person who, with her assistants of The Best Foods Home Economics Service, has prepared for you the little booklets which comprise the Best Foods Library.

The Best Foods Library, as its members know, is always at the disposal of home economists and authorities on nutrition who are on the lookout for new suggestions, new recipes, new dietary discoveries.

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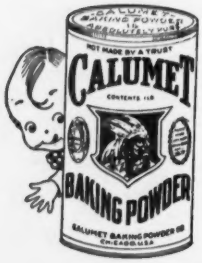

CALUMET
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Lives of Leaders

(Continued from page 136)

go into some other kind of position. Illness in the family kept me at home until October, then I entered Western Reserve University and registered in zoology with Professor F. H. Herrick, and in organic chemistry with the distinguished chemist, Doctor Edward W. Morley. For the second semester i decided to go to Mrs. Richards and to begin definitely the study of the chemistry of food. I told Mrs. Richards that I thought I ought to be very healthy because I was taking sanitary chemistry with her, sanitary biology and sanitary science with Doctor Wm. T. Sedgwick.

IN April I had a letter from Professor Atwater asking me if I would make dietary studies in Hampton, Virginia among the colored people. I replied that the making of dietary studies at any time was considerable of an undertaking, but I thought that in warm weather and among colored people, it would be a difficult task. When I spoke to Mrs. Richards about my doubts, she said, "Of course you will do it. You cannot afford professionally to do otherwise, since Professor Atwater has asked you." Evidently Professor Atwater felt the same way, for the only reply to my letter was that I should meet him at Young's Hotel in Boston to make arrangements for the trip. He told me that I should stop in Washington for instructions and that Doctor A. C. True of the Department of Agriculture would see me safely on my way to Hampton. By this time you will see that I was beginning to acquire the habit of following the suggestions of my good friends, because they had already opened so many doors to me.

The Hampton experience was a wonderful new chapter in my life, and I came away from Hampton Institute with great admiration for the work that Dr. Frissell and his staff were doing, and for the way in which the colored people responded to their efforts. Over and over again they said to me, "Hampton has done so much for us; we must do all we can for it."

To my disappointment in the fall no position that I wished was open to me, and I returned to Mrs. Richards' laboratory to continue my work in the analysis of air, water, and food. In November, a position opened in Lake Erie College, Painesville, Ohio, with the title of Professor of Chemistry. It was a great disappointment that the opportunity should open in a woman's college, since I had resolved not to work in one again, but the state of my finances helped me to decide the question. Moreover, it was a fine opportunity, because I had worked out a course which I named "Chemistry, with Applications to Food and Physiology," and I was to have the chance of trying it out there. It was really a great opportunity. I have never met two women for whom I have greater admiration than for President Mary Evans and Miss Luetta Bentley, the dean. Moreover, the position gave me the chance to work out this course in addition to the teaching of general chemistry. I finished the year and returned for the next year. Then, one day in March, a letter came from President Draper, saying that they were about to establish a new department in the University of Illinois, that I had been recommended by Professor Atwater and Mrs. Richards, and that he would be glad to have me visit the institution.

I came, I saw, and I was conquered, and thus ends the story of how I came to go into Home Economics. This account will perhaps help you to understand why I have inscribed under the photos of Doctor Smith, Professor Putnam, Professor Atwater, Doctor True, and Mrs. Richards, "My bountiful benefactors."

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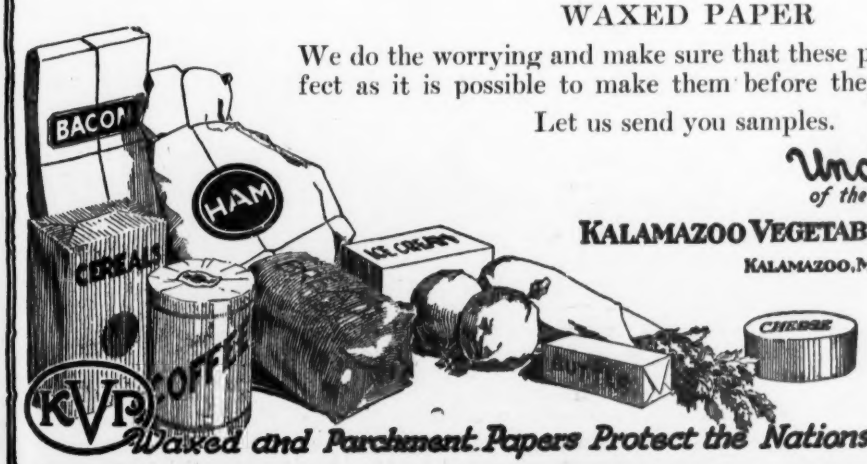

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Dry Milk Institute

(Continued from page 131)

it adds to bakery products, ice cream, chocolate and confectionery, prepared flours, sausage, and other food products.

Perhaps of still greater fundamental importance than the educational work on the commercial value of dry skim milk is the task of creating a full and accurate understanding of its value in human nutrition.

Science has shown that the food elements most frequently lacking in the human diet and most abundantly supplied by milk are in the skim milk solids. Skim milk is rich in calcium and phosphorus, the bone and tooth building elements so frequently deficient in the modern diet. It also contains a high quality of protein for building and restoring body tissue, and it has an abundant supply of lactose or milk sugar which supplies body energy or fuel and has a beneficial effect on the bacterial flora of the intestinal tract. It is rich in Vitamin B and contains varying amounts of Vitamins A and C. Dry skim milk, in fact, contains all the milk except the water, the milk fat, and the vitamins contained in the milk fat.

Part of the Institute educational work is to build an appreciation of these food values in the skim milk solids.

While bakers and others have used dry skim milk for its commercial value in their products, there has been a reluctance to advertise, and in many cases even to admit, the use of "skim milk" in foods. This has been due entirely to the public lack of appreciation of its food value.

We find, even now, this lack of public appreciation being accentuated by an occasional advertisement with a contemptuous reference to skim milk "which is never used in our product." To the man or woman who knows—and unfortunately there are still but few who really do know—such a statement is a knock rather than a boost for the product about which it is made.

Sometimes an advertiser, realizing the value of the skim milk he uses but recognizing the general ignorance on the subject, refers to the added food values obtained by the liberal use of "milk minerals, milk proteins, and milk sugar" in his product. Nothing else, after all, but skim milk, yet the camouflaged phrasing makes it sound more attractive.

Skim milk is one of our best, and at the same time one of the least expensive, of our supplementary foods, and the more of it we get into the average daily diet the better will be the general health and economic condition of the nation.

The specific methods for carrying on this educational work will be varied. Authorities on nutrition and on medicine recognize the increased food value which the skim milk solids can supply in the daily diet but their knowledge alone cannot be effective in educating the general public.

With the limited funds of a young and growing industry the task of education is a gradual one. The industry must depend largely on the individuals and organizations who have an unselfish interest in building up the health and welfare of individuals and of the nation.

Through some agencies, and with the direct efforts which may be within the means of the industry—represented by the Institute—this educational work will go on at the same time as the educational work to the industries which use dry skim milk. One will supplement the other, and gradually a fuller knowledge and appreciation of the true value of dry skim milk will show its effect.

So much for the statistical work, the research work in the uses of dry skim milk, and the educational work of the Institute.

One other institute activity deserves mention. No existing standards guide the user of dry skim milk in the selection of a product best suited to his requirements. He has only the reputation of the manufacturer and of the dealer to rely upon, together with the somewhat unsatisfactory formality of examining samples and comparing the product received with samples submitted.

Establishment of grades in any industry has always marked a definite step ahead in the progress of that industry, and the Institute is working toward the establishment of grades in the dry skim milk industry. The first step has been to adopt a set of recommended methods of analysis. The next step will be to compare the products analyzed by these methods in relation to their actual behavior in the various branches of the food industry. For certain uses a high solubility may be important; for other uses a lower solubility may be equally good or even more desirable. Similarly, other characteristics of dry skim milk may be found desirable for use in certain industries and undesirable for use in others.

Establishment of grades accurately and authoritatively is a tremendous task and one which will require careful study over a considerable period of time.

In the meantime, the better control of production made possible through statistical service, the increasing knowledge accumulating on its uses resulting from research work, and the greater appreciation of its commercial and nutritional value through the educational work of the Institute are all operating to aid the industry to make sound substantial progress.

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Home Economics for Boys

(Continued from page 138)

City Planning and Improvements
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Appreciation of finer things of life.
Music, religion, art, observance of holidays.

Textiles and Clothing
Suitable materials for all types of suits.
Care of clothing: Cleaning, pressing, mending.
Study of line, color and design as applied to correct dress.

Administration

Fortunately we have a liberal group of administrators who were willing in the first place that the boys be granted their request for a class in Home Economics. Since the head of department scheduled the class on extra time of her own in the experimental stages, there could be little objection from authorities higher up.

It was decided to make it a "solid" subject, one period a day, and worth one graduation credit. Of course it would be much better to have double periods on laboratory days but students find that difficult to arrange. From classes of ten to fifteen in number at first, there has been a steady increase till now two classes or more could be held each term if the instructor had more time. The limit is thirty five at present. Boys often speak for a place in the next semester's enrollment; many try to enroll but cannot because of graduation requirements which must be met first, and so there are always several post graduates. Boys must be of Junior or Senior standing.

Home Economics for boys is no longer an educational experiment for all must recognize the need of the boy as well as the girl for training in home making.

In Tulsa, Oklahoma the citizens agreed so well in this viewpoint that one term of "Home Crafts for Boys" is required of all Senior High School boys.

Arkansas has a course called "Food and Nutrition for Boys." Van Nuys, Los Angeles, and Long Beach, California, call their courses "Home Activities." Whatever the name, the aim is the same and to those who desire a new pedagogic thrill, a class in boys home economics is heartily recommended.

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MARY AGNES DAVIS, Instructor in Quantity Cookery, Teachers College, Columbia University, writes a comprehensive, authoritative article on "The School Lunch" each month for *Normal Instructor-Primary Plans*. These articles are in response to an insistent demand from teachers for practical help in the planning, preparation, and supervision of a daily hot school lunch for their pupils.

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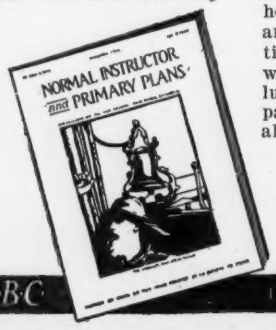

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